

Pyrenees Facility Operations Environment Plan

Australian Operations Division

January 2026

Revision 23

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK

Table of contents

1	Introduction.....	16
1.1	Overview	16
1.2	Purpose of the Environment Plan	16
1.3	Scope of the Environment Plan.....	17
1.4	Environment Plan summary	17
1.5	Structure of the Environment Plan	17
1.6	Description of the titleholder.....	20
1.7	Details of titleholder and nominated liaison person	20
1.7.1	Titleholder	20
1.7.2	Nominated liaison person	20
1.7.3	Arrangements for notifying change	20
1.8	Woodside/BHP Petroleum merger	20
1.9	Woodside (PetDW) Management System	21
1.9.1	Environment policy	21
1.10	Description of relevant requirements	21
1.10.1	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i> (Cth).....	21
1.10.2	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) (Cth)	22
1.10.2.1	Recovery plans and threat abatement plans	23
1.10.2.2	Australian Marine Parks.....	24
1.10.2.3	World Heritage properties	24
2	Environment Plan process	25
2.1	Overview	25
2.2	Environmental risk management methodology	25
2.2.1	Woodside (PetDW) risk management process	25
2.2.2	Impact assessment process	25
2.3	Environment Plan development process.....	26
2.4	Establish the context	28
2.4.1	Define the activity	28
2.4.2	Define the existing environment	28
2.4.3	Relevant requirements	29
2.5	Impact and risk identification	29
2.6	Impact and risk analysis	30
2.6.1	Decision support framework	30
2.6.1.1	Decision Type A.....	30
2.6.1.2	Decision Type B.....	31
2.6.1.3	Decision Type C.....	31
2.6.1.4	Decision support framework tools.....	31
2.6.2	Control measures (hierarchy of controls)	32
2.6.3	Impact and risk classification.....	33
2.6.3.1	Risk rating process	34
2.7	Impact and risk evaluation	35
2.7.1	Demonstration of ‘as low as reasonably practicable’ (ALARP)	35
2.7.2	Demonstration of acceptability	36
2.8	Recovery plan and threat abatement plan assessment.....	36
2.9	Environmental performance outcomes, environmental performance standards, and measurement criteria.....	36

2.10	Implement, monitor, review and report.....	37
2.11	Consultation	37
3	Description of the activity	38
3.1	Overview	38
3.2	Petroleum Activity overview	38
3.3	Location	40
3.3.1	Operational Area	40
3.4	Timing.....	41
3.5	Subsea infrastructure layout and description	41
3.6	Suspended infrastructure	44
3.7	Exploration well with wellhead	44
3.8	Other property including exploration wellheads in the licence areas	45
3.9	Characteristics of target hydrocarbons	45
3.9.1	Production overview	45
3.10	Well control.....	45
3.11	Pyrenees Facility	45
3.11.1	Facility design conditions.....	46
3.11.2	Turret and mooring	47
3.11.3	Hull 51	
3.11.4	Topsides layout	51
3.12	Modes of operation.....	53
3.12.1	Connected mode	53
3.12.2	Disconnected mode	53
3.12.3	Transition from connected to disconnected mode.....	53
3.12.4	Floating production, storage and offtake facility (FPSO) personnel levels	53
3.13	Production process.....	54
3.13.1	Production system overview	54
3.13.2	Liquid processing overview	54
3.13.3	Flare system	60
3.13.3.1	Normal operations.....	60
3.13.3.2	Intermittent process upsets and activities	61
3.13.3.3	Emergency blowdown.....	61
3.13.3.4	Transient operations	61
3.13.4	Vent system.....	61
3.13.5	Production water treatment and injection system.....	61
3.13.6	Drainage system	66
3.13.6.1	Closed drains	66
3.13.6.2	Open drains	66
3.13.7	Seawater system	67
3.13.7.1	Cooling water system.....	67
3.13.7.2	Fresh water system.....	67
3.13.8	Cargo tanks	68
3.13.9	Ballast system.....	68
3.13.10	Offloading system and offtake tanker mooring	69
3.13.11	Inert gas system	69
3.13.12	Greenhouse gas emissions	70
3.14	Emergency blowdown, shutdown and safeguarding.....	70
3.14.1	Emergency blowdown	70

3.14.2	Shutdown and safeguarding control systems.....	70
3.14.3	Emergency shutdown valves.....	71
3.15	Utility systems	71
3.15.1	Power generation	71
3.15.1.1	Topside power generation	71
3.15.1.2	Essential (hull) generators	72
3.15.1.3	Emergency generators.....	72
3.15.1.4	Uninterruptable power supplies	72
3.15.2	Diesel fuel system	73
3.15.3	Hydraulic and lube oil	73
3.15.4	Instrument and plant air system	73
3.15.5	Nitrogen system.....	74
3.15.6	Steam systems	74
3.15.7	Sewage and putrescible wastes	74
3.15.8	Cranes and material handling.....	74
3.15.9	Passing vessel detection	74
3.15.10	Facility lighting	75
3.15.11	Chemical injection system	75
3.16	Hazardous substances and inventories	75
3.16.1	Process and non-process hydrocarbons	75
3.16.2	Process and non-process chemicals.....	76
3.16.3	Chemical selection, assessment and approval	80
3.16.3.1	Environmental selection criteria	80
3.16.3.2	Background overview of Offshore Chemical Notification Scheme	80
3.17	Support vessel operations.....	81
3.17.1	Facility support vessels	81
3.17.2	Other support vessels.....	81
3.18	Helicopter operations	82
3.19	Subsea inspection, monitoring, maintenance and repair (IMMR) activities	82
3.19.1	Inspections.....	82
3.19.2	Monitoring	83
3.19.3	Maintenance	83
3.19.4	Repair	83
3.19.5	Subsea chemical usage	84
3.19.6	Intervention isolations.....	84
3.19.7	Marine growth removal	85
3.19.8	Sediment relocation	85
3.20	Waste management	85
3.20.1	General non-hazardous wastes.....	85
3.20.2	Hazardous wastes	85
3.20.3	Naturally occurring radioactive materials and sand management	85
4	Description of the existing environment	87
4.1	Overview	87
4.2	Regional context.....	90
4.3	Matters of national environmental significance (EPBC Act).....	92
4.4	Physical environment	92
4.5	Habitats and biological communities.....	94
4.6	Protected species.....	95

4.6.1	Fish, sharks and rays	96
4.6.2	Marine reptiles	101
4.6.3	Marine mammals	110
4.6.4	Seabirds and migratory shorebirds	122
4.6.5	Seasonal sensitivities for protected species.....	135
4.7	Key ecological features	136
4.8	Protected places.....	138
4.9	Cultural features and heritage values	144
4.9.1	Background.....	144
4.9.2	First Nations peoples	144
4.9.2.1	Coastally adjacent First Nations groups	145
4.9.3	Marine and national parks	149
4.9.4	Sea Country values	151
4.9.4.1	Desktop assessment of Sea Country values.....	152
4.9.4.2	Studies of cultural features and heritage values.....	168
4.9.4.3	Consultation feedback to inform existing environment.....	168
4.9.4.4	Summary of cultural features and heritage values	182
4.9.4.5	Further context: intangible cultural heritage	186
4.9.4.6	Further context: marine ecosystems and species	187
4.9.5	Heritage listed places	188
4.9.5.1	Historic sites of significance.....	189
4.9.5.2	Underwater Heritage.....	189
4.9.5.3	World, National and Commonwealth Heritage listed places.....	190
4.10	Socio-cultural environment.....	192
4.10.1	Commercial fisheries	192
4.10.2	Traditional fisheries	204
4.10.3	Tourism and recreation.....	204
4.10.4	Commercial shipping	205
4.10.5	Oil and gas.....	207
4.10.6	Defence zones.....	209
5	Consultation.....	212
5.1	Summary	212
5.2	Consultation – general context.....	213
5.3	Identification of Relevant Persons for Consultation	216
5.3.1	Regulations 25(1)(a), (b) and (c)	216
5.3.2	Identification of relevant persons Under Regulations 25(1)(a), (b) and (c)	216
5.3.3	Regulation 25(1)(d).....	217
5.3.4	Identification of relevant persons Under Regulation 25(1)(d).....	219
5.3.5	Regulation 25(1)(e).....	224
5.3.6	Identification of relevant persons under Regulation 25(1)(e)	224
5.3.7	Persons or organisations Woodside chooses to contact	225
5.4	Assessment of relevant persons for the Proposed Activity	225
5.5	Consultation material and timing	225
5.5.1	Sufficient information	225
5.5.2	Reasonable period for consultation	228
5.5.3	Discharge of Regulation 25	229
5.5.4	Context of consultation approach with Traditional Custodians	230
5.5.5	Approach to methodology – Woodside’s interpretation of Tipakalippa	230

5.5.6	Consultation method.....	231
5.5.6.1	Identification of relevant persons	232
5.5.6.2	Opportunity to self-identify and identifying other individuals.....	233
5.5.6.3	Reasonable period for consultation	234
5.5.6.4	Discharge of Regulation 25	234
5.6	Providing feedback and assessment of merit of objections or claims	234
5.7	Ongoing consultation.....	235
6	Environmental impact and risk assessment, performance outcomes, standards and measurement criteria	236
6.1	Overview	236
6.2	Analysis and evaluation	236
6.3	Cumulative impacts	239
6.4	Environmental performance outcomes, standards and measurement criteria	239
6.5	Presentation	239
6.6	Environment risk/impacts not deemed credible	241
6.7	Planned activities (routine and non-routine)	242
6.7.1	Physical presence: disturbance to marine users.....	242
6.7.2	Physical presence: disturbance to the seabed	248
6.7.3	Routine light emissions: light emissions from FPSO lighting, vessel operations and operational flaring	254
6.7.4	Routine acoustic emissions: generation of noise during routine operations	264
6.7.5	Routine and non-routine atmospheric and greenhouse gas emissions	280
6.7.6	Routine and non-routine discharges: produced water	306
6.7.7	Routine and non-routine discharges: liquid wastes and subsea fluids.....	327
6.8	Unplanned activities (accidents, incidents, emergency situations)	338
6.8.1	Quantitative spill risk assessment methodology.....	338
6.8.1.1	Hydrocarbon characteristics – Pyrenees crude	338
6.8.1.2	Environment that may be affected and hydrocarbon contact thresholds	341
6.8.1.3	Operational and scientific monitoring.....	341
6.8.2	Unplanned hydrocarbon release: loss of well containment	342
6.8.3	Unplanned hydrocarbon release: loss of containment of bulk storage (crude)	371
6.8.4	Unplanned hydrocarbon release: subsea infrastructure	378
6.8.5	Unplanned hydrocarbon release: offtake operations	383
6.8.6	Unplanned hydrocarbon release: turret operations	387
6.8.7	Unplanned hydrocarbon release: diesel spill from bulk storage.....	391
6.8.8	Unplanned hydrocarbon or chemical release: transfer, storage and use	398
6.8.9	Unplanned discharges: hazardous and non-hazardous waste management	404
6.8.10	Physical presence: interaction with live infrastructure	409
6.8.11	Physical presence: vessel collision with marine fauna	412
6.8.12	Physical presence: introduction of invasive marine species	415
6.9	Recovery plan and threat abatement plan assessment.....	426
6.10	Cultural features and heritage values assessment	440
7	Implementation strategy	449
7.1	Overview	449
7.2	Systems, practice and procedures	449
7.3	Woodside (PetDW) Management System	449
7.4	Woodside invasive marine species risk assessment process	449
7.4.1	Objective and scope	449

7.4.2	Risk assessment process	450
7.5	Risk management	452
7.5.1	Management of risks – contracting and procurement	452
7.5.2	Management of risks – well integrity	453
7.5.3	Management of risks – marine services	453
7.5.4	Management of risks – direct greenhouse gas emissions management	453
7.5.4.1	Production optimisation and opportunity management	454
7.5.4.2	Fuel gas and flare target setting and monitoring	454
7.5.5	Management of risks – indirect greenhouse gas emissions management	455
7.5.5.1	Annual review	456
7.6	Change management	456
7.6.1	EP management of change and revision	456
7.6.2	Oil Pollution Emergency Plan management of change	456
7.7	Woodside decommissioning framework	457
7.7.1	Decommissioning in operations	457
7.7.2	Decommissioning planning	457
7.7.3	Inventory of property within Pyrenees asset	458
7.7.4	Pyrenees decommissioning strategy	460
7.7.5	Decommissioning planning activities	460
7.7.5.1	Offline production wells	460
7.7.5.2	Exploration wells	461
7.7.5.3	Suspended subsea infrastructure	461
7.7.5.4	Production infrastructure	461
7.7.5.5	Preparation for cessation of production	461
7.7.6	Title relinquishment	462
7.8	Organisation structure	462
7.8.1	Roles and responsibilities	462
7.9	Unexpected Finds Procedure	468
7.10	Training and competency	468
7.10.1	Inductions for offshore facility workers and visitors	469
7.10.2	Operations competency framework training	469
7.10.3	Permit to work system training	470
7.10.4	Emergency and hydrocarbon spill response training	470
7.10.5	Subsea IMMR activity environmental awareness	470
7.11	Monitoring, auditing, management of non-conformance and review	470
7.11.1	Monitoring	471
7.11.2	Management of knowledge	471
7.11.3	Management of newly identified impacts and risks	472
7.11.4	Auditing	474
7.11.4.1	Operations assurance	474
7.11.4.2	Annual offshore inspection/desktop review	474
7.11.4.3	Subsea support vessel environment inspection	474
7.11.4.4	Marine assurance	474
7.11.4.5	Risk assessment	475
7.11.5	Management of non-conformance	476
7.12	Review	476
7.12.1	Environmental risk review	476
7.12.2	Learning and knowledge sharing	477
7.12.3	Continuous improvement	477

7.13	Record keeping	477
7.14	Reporting	478
7.14.1	Overview	478
7.14.2	Routine reporting (internal)	478
7.14.2.1	Daily reports	478
7.14.2.2	Performance reporting	478
7.14.3	Routine reporting (external)	478
7.14.3.1	Cetacean and whale shark sightings reporting	478
7.14.3.2	Environmental performance review and reporting	478
7.14.4	End of the Petroleum Activity notification	479
7.14.4.1	End of the Environment Plan	479
7.14.5	Incident reporting (internal)	479
7.14.6	Incident reporting (external) – reportable and recordable	479
7.14.6.1	Reportable incidents	479
7.14.6.2	Recordable incidents	480
7.14.7	Other external reporting requirements and notifications	480
7.15	Ongoing consultation	481
7.16	Emergency preparedness and response	484
7.16.1	Overview	484
7.16.2	Emergency response training	484
7.16.3	Emergency response preparation	485
7.16.4	Initial response to facility incident	486
7.16.5	Oil and other hazardous materials spill	486
7.16.6	Emergency and spill response	486
7.16.7	Source control response capability	486
7.16.7.1	Source control Incident Management Team structure	486
7.16.7.2	Source Control Incident Management team personnel and resourcing	489
7.16.8	Emergency and spill response drills and exercises	490
7.16.9	Hydrocarbon spill response testing of arrangements	491
7.16.9.1	Testing of arrangements schedule	491
7.16.9.2	Source control testing and exercise arrangements	492
7.16.10	Cyclone and dangerous weather preparation	493
7.17	Offshore Marine Discharge Adaptive Management Plan	494
7.17.1	Overview	494
7.17.2	Routine monitoring and management	494
7.17.3	Further investigations	495
7.17.4	ALARP/acceptability study	496
7.17.5	Review and revision	496
8	References	497
9	List of terms and acronyms	511
	Appendix A: Woodside Environment and Biodiversity Policy	517
	Appendix B: Relevant requirements	518
	Appendix C: EPBC Act Protected Matters Search Tool results	521
	Appendix D: Cultural Heritage search results	522
	Appendix E: NOPSEMA reporting forms	523
	Appendix F: Consultation	524

Appendix G: Program of Ongoing Engagement with Traditional Owners	525
Appendix H: Oil spill preparedness and response mitigation assessment	526
Appendix I: First Strike Plan.....	527
Appendix J: Woodside master existing environment.....	528
Appendix K: Woodside's Climate Policy.....	529
Appendix L: Hydrocarbon Spill Australia Regulatory Framework	530

List of tables

Table 1-1: Environment Plan (EP) summary	17
Table 1-2: EP process phases, applicable Environment Regulations and relevant section of EP	18
Table 1-3: Relevant requirements of the <i>Offshore Petroleum and Greenhouse Gas Storage Act</i>	21
Table 1-4: Conditions from Pyrenees Petroleum Field development (EPBC 2005/2034) relevant to the Petroleum Activity	22
Table 1-5: Relevant management principles under Schedule 5 – Australian World Heritage management principles of the EPBC Act.....	24
Table 2-1: Example of the environment values potentially impacted that are assessed within the EP	29
Table 2-2: Example of layout of identification of risks and impacts in relation to risk sources	30
Table 2-3: Woodside Petroleum Deepwater (PetDW) Risk Matrix (environment and social and cultural) consequence severity descriptions, severity levels and severity factors	33
Table 2-4: Woodside PetDW Risk Matrix likelihood level definitions	34
Table 2-5: Summary of Woodside's PetDW criteria for ALARP demonstration	35
Table 2-6: Summary of Woodside's PetDW criteria for acceptability	36
Table 3-1: Petroleum Activity overview	40
Table 3-2: Approximate location of the FPSO and associated subsea wells ¹	42
Table 3-3: Status of Pyrenees suspended infrastructure in WA-42-L and WA-43-L ¹	44
Table 3-4: Status of West Muiron-5 exploration well	45
Table 3-5: Pyrenees Facility design rates	46
Table 3-6: Pyrenees Facility metocean design conditions	47
Table 3-7: Pyrenees Venture FPSO mooring system	48
Table 3-8: Discharge pipe configuration	57
Table 3-9: Cooling water discharge specifications	67
Table 3-10: Direct and indirect greenhouse gas (GHG) emissions sources associated with Pyrenees production	70
Table 3-11: Indicative topsides process hydrocarbon inventories on the Pyrenees Venture FPSO.....	76
Table 3-12: Indicative process chemical types and storage quantities	78
Table 3-13: Indicative facility support vessel specifications (Go Provider)	81
Table 3-14: IMMR activities with the potential to occur	83
Table 3-15: Typical discharge volumes during different IMMR and subsea activities.....	84
Table 3-16: Marine growth removal techniques	85
Table 4-1: Hydrocarbon spill thresholds used to define the environment that may be affected (EMBA) for surface and in-water hydrocarbons	87
Table 4-2: Summary of matters of national environmental significance identified by the EPBC Act Protected Matters Search Tool as potentially occurring within the Operational Area and EMBA	92
Table 4-3: Habitats and communities within the EMBA	94
Table 4-4: Threatened and migratory fish, shark and ray species predicted to occur within the Operational Area and EMBA	97
Table 4-5: Fish, shark and ray biologically important areas (BIAs) within the Operational Area and EMBA ..	99
Table 4-6: Threatened and migratory marine reptile species predicted to occur within the Operational Area and EMBA.....	102
Table 4-7: Marine turtle BIAs within the Operational Area and the EMBA.....	103
Table 4-8: Habitat critical to the survival of marine turtles occurring within the EMBA	105
Table 4-9: Threatened and migratory marine mammal species predicted to occur within the Operational Area and EMBA.....	111
Table 4-10: Marine mammal BIAs within the Operational Area and the EMBA	113

Table 4-11: Threatened and migratory seabird and shorebird species predicted to occur within the Operational Area and EMBA	123
Table 4-12: Seabird and shorebird BIAs within the Operational Area and EMBA	129
Table 4-13: Key seasonal sensitivities for EPBC listed threatened migratory species identified as occurring in or near the Operational Area	135
Table 4-14: Key ecological features within the Operational Area and EMBA	136
Table 4-15: Established protected places and other sensitive areas overlapping the EMBA	138
Table 4-16: Summary of native title claims, determinations and Indigenous Land Use Agreements that overlap or are coastally adjacent to the EMBA	147
Table 4-17: Summary marine park management plans that overlap the EMBA	150
Table 4-18: Cultural features and heritage values identified in publicly available literature	152
Table 4-19: Feedback received via consultation to inform existing environment description	170
Table 4-20 Summary of cultural features and heritage values	183
Table 4-21: Recorded shipwrecks within the EMBA	189
Table 4-22: World Heritage properties and National/Commonwealth Heritage listed places within the EMBA	190
Table 4-23: Commonwealth and State managed commercial fisheries overlapping the Operational Area and/or EMBA	193
Table 4-24: Other oil and gas facilities located within 50 km of the Operational Area	207
Table 4-25: Defence areas, facilities and unexploded ordnances overlapping the Operational Area and/or EMBA	209
Table 5-1: Relevant government departments and agencies	217
Table 5-2: Categories of relevant persons	220
Table 5-3: Methodology for identifying relevant persons within the EMBA undertaken under Regulation 25(1)(d) – by category	221
Table 5-4: Typical forms of communication for categories of relevant persons	227
Table 6-1: Environmental impact and risk analysis summary table – planned activities	237
Table 6-2: Environmental impact and risk analysis summary table – unplanned events	237
Table 6-3: Summary of noise sources associated with the Petroleum Activity	266
Table 6-4: Impact thresholds for low and high frequency cetaceans for impulsive and continuous noise ...	267
Table 6-5: Impact thresholds for marine turtles for impulsive and continuous noise	268
Table 6-6: Impact thresholds for fish, sharks and rays for impulsive and continuous noise	269
Table 6-7: Maximum distances for a range of sound pressure levels for vessel operations (Li et al., 2024) ..	269
Table 6-8: Maximum distances for a range of sound exposure levels over 24 hrs for vessel operations (Li et al., 2024)	270
Table 6-9: Maximum distances for a range of sound pressure levels for subsea infrastructure (Li et al., 2024)	272
Table 6-10: Maximum distances and area for a range of sound exposure levels over 24 hrs for subsea infrastructure (Li et al., 2024)	272
Table 6-11: Four-year Pyrenees Venture FPSO GHG (National Greenhouse and Energy Reporting) emissions summary	281
Table 6-12: Estimated annual emissions from fuel gas and diesel combusted onboard the Pyrenees Venture FPSO	282
Table 6-13: Estimated annual emissions from flaring onboard the Pyrenees Venture FPSO	284
Table 6-14: Forecast direct and indirect GHG emissions	285
Table 6-15: Contaminant characterisation and variability	306
Table 6-16: Monitoring parameter, trigger value and frequency	309
Table 6-17: Guideline values and required dilutions to achieve 99% and 95% species protection	313
Table 6-18: Characteristics of Pyrenees crude	339
Table 6-19: Summary of thresholds applied to the quantitative hydrocarbon spill risk modelling results	341
Table 6-20: Key receptor locations and sensitivities potentially contacted above impact thresholds by the loss of well containment scenario with summary hydrocarbon spill contact $\geq 1\%$ probability	344
Table 6-21: Summary of worst-case loss of containment scenario	372
Table 6-22: Assessment of the impacts and risks of IMS introduction associated with the Petroleum Activity	417
Table 6-23: Identification of applicability of recovery plan and threat abatement plan objectives and action areas	427
Table 6-24: Assessment against relevant actions of the Marine Turtle Recovery Plan	432
Table 6-25: Assessment against relevant actions of the Blue Whale Conservation Management Plan	434

Table 6-26: Assessment against relevant actions of the Grey Nurse Shark Recovery Plan	435
Table 6-27: Assessment against relevant actions of the Southern Right Whale Recovery Plan	436
Table 6-28: Assessment against relevant actions of the Sawfish and River Shark Recovery Plan.....	438
Table 6-29: Assessment against relevant actions of the Marine Debris Threat Abatement Plan	439
Table 7-1: Key factors considered as a part of the risk assessment process for vessels.....	450
Table 7-2: Key factors considered as a part of the risk assessment process for immersible equipment	451
Table 7-3: Inventory of Woodside infrastructure within WA-42-L and WA-43-L covered by this EP	459
Table 7-4: Roles and responsibilities.....	463
Table 7-5: Summary of emissions and discharges monitoring for the Petroleum Activity	473
Table 7-6: Routine external reporting requirements	479
Table 7-7: Ongoing consultation engagements.....	483
Table 7-8: Oil pollution preparedness and response overview	484
Table 7-9: Emergency response training requirements	485
Table 7-10: Source Control Section roles and responsibilities.....	488
Table 7-11: Role descriptions mapped to Source Control Section roles.....	490
Table 7-12: Testing of response capability.....	491

List of figures

Figure 2-1: Impact assessment process.....	26
Figure 2-2: EP development process	27
Figure 2-3: Risk-related Decision-making Framework (Oil and Gas UK, 2014).....	31
Figure 2-4: Environmental risk and impact analysis	33
Figure 2-5: Woodside PetDW Risk Matrix – risk levels	34
Figure 3-1: Overview of subsea infrastructure layout associated with the Pyrenees Venture FPSO (not to scale)	39
Figure 3-2: Pyrenees Facility location, Operational Area and field layout.....	41
Figure 3-3: Pyrenees Venture FPSO.....	46
Figure 3-4: Pyrenees Venture FPSO disconnectable internal turret (upper section)	49
Figure 3-5: Pyrenees Venture FPSO lower turret and spider buoy.....	50
Figure 3-6: Pyrenees Venture FPSO hull layout – profile	52
Figure 3-7: Pyrenees Venture FPSO hull layout – tank top plan.....	52
Figure 3-8: Pyrenees Venture FPSO layout – modules	52
Figure 3-9: Pyrenees Facility process flow schematic	56
Figure 3-10: Pyrenees Facility gas processing schematic	59
Figure 3-11: Pyrenees Facility produced water system schematic	63
Figure 3-12: Pyrenees Facility routine operations schematic.....	64
Figure 3-13: Pyrenees Facility upset conditions schematic	65
Figure 3-14: Offshore Chemical Notification Scheme ranking	80
Figure 3-15: Typical facility support vessel (Go Provider).....	81
Figure 4-1: Environment that may be affected by the Petroleum Activity	89
Figure 4-2: Location of the Operational Area and relevant marine provincial bioregions	91
Figure 4-3: Bathymetry of the Operational Area.....	93
Figure 4-4: Whale shark BIAs and satellite tracks of whale sharks tagged between 2005 and 2008	100
Figure 4-5: Marine turtle BIAs overlapping and adjacent to the Operational Area.....	106
Figure 4-6: Habitat critical to the survival of marine turtles overlapping and adjacent to the Operational Area	107
Figure 4-7: Marine turtle BIAs associated with the EMBA.....	108
Figure 4-8: Marine turtle habitat critical associated with the EMBA	109
Figure 4-9: Pygmy blue whale BIAs and satellite tracks	118
Figure 4-10: Humpback whale BIAs and satellite tracks	119
Figure 4-11: Southern right whale BIAs.....	120
Figure 4-12: Dugong BIAs	121
Figure 4-13: Seabird BIAs overlapping and adjacent to the Operational Area	133
Figure 4-14: Seabird BIAs associated with the EMBA	134
Figure 4-15: Key ecological features overlapping and adjacent to the Operational Area and EMBA.....	137
Figure 4-16: Protected areas adjacent to the Operational Area and EMBA	143

Figure 4-17: Operational Area and EMBA in relation to native title claims, determinations and Indigenous Land Use Agreements	146
Figure 4-18: Commonwealth-managed commercial fisheries overlapping the Operational Area with the potential for interaction with the Petroleum Activity	201
Figure 4-19: State-managed commercial fisheries overlapping the Operational Area with the potential for interaction with the Petroleum Activity	202
Figure 4-20: State-managed commercial fisheries overlapping the Operational Area with the potential for interaction with the Petroleum Activity (continued from Figure 4-19)	203
Figure 4-21: Vessel density map for the Operational Area and EMBA, derived from Australian Maritime Safety Authority satellite tracking system data (vessels include cargo, liquefied natural gas tanker, passenger vessels, support vessels and others/unnamed vessels)	206
Figure 4-22: Oil and gas infrastructure within and near the Operational Area	208
Figure 4-23: Defence areas within and adjacent to the Operational Area	211
Figure 5-1: Overview of Woodside's methodology to identify relevant persons	213
Figure 5-2: Overview of Woodside's consultation approach	215
Figure 6-1: Sound pressure level contour map (Li et al., 2024)	270
Figure 6-2: Produced water production and reinjection summary	307
Figure 6-3: Summary of produced water and slops water discharged overboard	308
Figure 6-4: Produced water dilution contours at the 9,062 m ³ /day continuous discharge rate (contingency operations)	310
Figure 6-5: Predicted dispersion and temperature of cooling water discharge trajectory and dispersion of cooling water modelled for a nominal discharge of 100,000 m ³ at a water temperature of 25°C above surrounding seawater	330
Figure 6-6: Mass balance of Pyrenees crude weathering for constant wind case	340
Figure 6-7: Mass balance of Pyrenees crude weathering for variable wind case	340
Figure 6-8: Proportional mass balance plot representing the weathering of marine diesel spilled onto the water surface as a one-off release (50 m ³ over one hour) and subject to variable wind at 27°C water temperature and 25°C air temperature	392
Figure 7-1: Emissions reduction opportunity management workflow	454
Figure 7-2: Woodside's process for decommissioning planning	458
Figure 7-3: Pyrenees decommissioning target schedule	461
Figure 7-4: Source Control Section organisation structure	487
Figure 7-5: Indicative three-yearly testing of arrangements schedule	492
Figure 7-6: Routine monitoring and adaptive management framework for produced water	495

1 INTRODUCTION

1.1 Overview

Woodside Energy (Australia) Pty Ltd (Woodside), as titleholder under the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth) (referred to as the Environment Regulations), and as a participant in the Joint Venture detailed in Section 1.6, submits this Environment Plan as operator of the Pyrenees Facility. The Pyrenees Facility is located in production licences WA-42-L and WA-43-L and commenced operation in 2010. Crude oil is produced from the Ravensworth, Crosby, Stickle, Tanglehead, Wild Bull and Moondyne reservoirs (collectively referred to as 'the Pyrenees reservoirs') via a single stand-alone floating production, storage and offloading vessel (the Pyrenees Venture FPSO).

The operation of the Pyrenees Facility includes the following activities:

- routine production of crude oil and gas
- routine and non-routine operations of the Pyrenees Venture FPSO and associated subsea infrastructure
- routine injection and production of gas to the Macedon-6 injection well
- produced water (PW) overboarding and reinjection into water injection wells
- the use of support vessels and helicopter operations.
- routine and non-routine inspection, monitoring, maintenance and repair (IMMR) of the Pyrenees Venture FPSO and associated subsea infrastructure.
- routine offloading of crude oil to cargo tankers
- disconnection, reconnection and sail-away of the FPSO.

These activities will hereafter be referred to as the Petroleum Activity and form the scope of this Environment Plan (EP). A more detailed description of the activities is provided in Section 3.

This EP has been prepared in accordance with the Environment Regulations, as administered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

1.2 Purpose of the Environment Plan

In accordance with the objectives of the Environment Regulations, the purpose of this EP is to demonstrate that:

- the potential environmental impacts and risks (planned (routine and non-routine) and unplanned) that may result from the Petroleum Activity are identified
- appropriate management controls are implemented to reduce impacts and risks to a level that is 'as low as reasonably practicable' (ALARP) and acceptable
- the Petroleum Activity is carried out in a manner consistent with the principles of ecologically sustainable development (ESD) (as defined in section 3A of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)).

This EP describes the process and resulting outputs of the risk assessment, whereby impacts and risks are managed accordingly.

The EP defines activity-specific environmental performance outcomes (EPOs), environmental performance standards (EPSs), and measurement criteria (MC). These form the basis for monitoring, auditing, and managing the Petroleum Activity to be undertaken by Woodside and its contractors. The implementation strategy (derived from the decision support framework tools) specified in this EP provides Woodside and NOPSEMA with the required level of assurance that impacts and risks associated with the Petroleum Activity are reduced to ALARP and are acceptable.

1.3 Scope of the Environment Plan

The scope of this EP covers the activities that define the Petroleum Activity, as described in Section 3, for a period of up to five years. The Operational Area, as defined in Section 3.3.1, defines the spatial boundary of the Petroleum Activity.

This EP addresses potential environmental impacts from planned activities and potential unplanned risks that originate from within the Operational Area. Transit to and from the Operational Area by project vessels, as well as port activities associated with these vessels, are not within the scope of this EP. Vessels supporting the Petroleum Activity operating outside the Operational Area (e.g. transiting to and from port) are subject to applicable maritime regulations and other requirements and are not managed by this EP.

1.4 Environment Plan summary

The EP summary in Table 1-1 is based on the material provided in this EP, as required by Regulation 35(4).

Table 1-1: Environment Plan (EP) summary

EP summary material requirement	Relevant section of this EP containing EP summary material
The location of the activity	Section 3
A description of the receiving environment	Section 4
A description of the activity	Section 3
Details of the environmental impacts and risks	Section 6
The control measures for the activity	Section 6
The arrangements for ongoing monitoring of the titleholder's environmental performance	Section 7
Response arrangements in the oil pollution emergency plan (OPEP)	Section 7
Consultation already undertaken and plans for ongoing consultation	Section 5
Details of the titleholder's nominated liaison person for the activity	Section 1.7.2

1.5 Structure of the Environment Plan

The EP has been structured to reflect the process and requirements of the Environment Regulations, as outlined in Table 1-2.

Table 1-2: EP process phases, applicable Environment Regulations and relevant section of EP

Criteria for acceptance	Content requirements/relevant regulations	Elements	Section of EP
Regulation 34(a): Is appropriate for the nature and scale of the activity	Regulation 21: Environmental Assessment Regulation 22: Implementation strategy for the environment plan Regulation 24: Other information in the environment plan	The principle of 'nature and scale' applies throughout the EP	Section 2 Section 3 Section 4 Section 5 Section 6 Section 7
Regulation 34(b): Demonstrates that the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable	Regulations 21(1) to 21(7): 21(1) Description of the activity 21(2)(3) Description of the environment 21(4) Requirements 21(5)(6) Evaluation of environmental impacts and risks 21(7) Environmental performance outcomes and standards Regulations 24(a) to 24(c): A statement of the titleholder's corporate environmental policy A report on all consultations between the titleholder and any relevant person	Set the context (activity and existing environment) Define 'acceptable' (the requirements, the corporate policy, relevant persons) Detail the impacts and risks Evaluate the nature and scale Detail the control measures – ALARP and acceptable	Section 1 Section 2 Section 3 Section 4 Section 5 Section 6 Section 7
Regulation 34(c): Demonstrates that the environmental impacts and risks of the activity will be of an acceptable level			
Regulation 34(d): Provides for appropriate environmental performance outcomes, environmental performance standards and measurement criteria	Regulation 21(7): Environmental performance outcomes and standards	EPOs EPSs MC	Section 6
Regulation 34(e): Includes an appropriate implementation strategy and monitoring, recording and reporting arrangements	Regulation 22: Implementation strategy for the environment plan	Implementation strategy, including: • systems, practices and procedures • performance monitoring • OPEP and operational and scientific monitoring • ongoing consultation	Section 7

Criteria for acceptance	Content requirements/relevant regulations	Elements	Section of EP
Regulation 34(f): Does not involve the activity or part of the activity, other than arrangements for environmental monitoring or for responding to an emergency, being undertaken in any part of a declared World Heritage property within the meaning of the EPBC Act	Regulation 21 (1) to 21(3): 21(1) Description of the activity 21(2) Description of the environment 21(3) Without limiting [Regulation 21(2)(b)], particular relevant values and sensitivities may include any of the following: a) the world heritage values of a declared World Heritage property within the meaning of the EPBC Act b) the national heritage values of a National Heritage place within the meaning of that Act c) the ecological character of a declared Ramsar wetland within the meaning of that Act d) the presence of a listed threatened species or listed threatened ecological community within the meaning of that Act e) the presence of a listed migratory species within the meaning of that Act f) any values and sensitivities that exist in, or in relation to, part or all of: i. a Commonwealth marine area within the meaning of that Act, or ii. Commonwealth land within the meaning of that Act.	No activity, or part of the activity, undertaken in any part of a declared World Heritage property	Section 3 Section 4 Section 6
Regulation 34(g): (i) the titleholder has carried out the consultations required by Division 2.2A (ii) the measures (if any) that the titleholder has adopted, or proposes to adopt, because of the consultations are appropriate	Regulation 25: Consultation with relevant authorities, persons and organisations, etc. Regulation 24(b): A report on all consultations between the titleholder and any relevant person	Consultation in preparation of the EP	Section 5
Regulation 34(h): Complies with the Act and the regulations	Regulation 23: Details of the titleholder and nominated liaison person Regulation 24(c): Details of all reportable incidents in relation to the proposed activity	All contents of the EP must comply with the Act and the regulations	Section 1.6 Section 7

1.6 Description of the titleholder

Woodside is the titleholder for this Petroleum Activity, operating on behalf of the Pyrenees Joint Venture (the Joint Venture).

For the Crosby, Stickle, Tanglehead, Wild Bull and Moondyne reservoirs located within production licence WA-42-L, the Joint Venture comprises of:

- Woodside Energy (Australia) Pty Ltd
- Santos WA PVG Pty Ltd.

For the Ravensworth reservoir split between production licence WA-42-L and the adjacent WA-43-L, the Joint Venture comprises of:

- Woodside Energy (Australia) Pty Ltd
- Santos WA PVG Pty Ltd
- INPEX Alpha Ltd.

1.7 Details of titleholder and nominated liaison person

In accordance with Regulation 23 of the Environment Regulations, details of the titleholder, nominated liaison person and arrangements for the notification of changes are described below.

1.7.1 Titleholder

Woodside Energy (Australia) Pty Ltd

11 Mount Street

Perth, Western Australia

T: 1800 442 977

Australian company number: 39 006 923 879

1.7.2 Nominated liaison person

Nicolas Wirtz

Corporate Affairs Manager

11 Mount Street

Perth, Western Australia (WA)

T: 1800 442 977

E: feedback@woodside.com

1.7.3 Arrangements for notifying change

If the titleholder, titleholder's nominated liaison person, or the contact details for the titleholder or the liaison person change, then NOPSEMA will be notified of the change in writing within two weeks or as soon as practicable.

1.8 Woodside/BHP Petroleum merger

BHP Group Ltd's petroleum assets (BHP Petroleum) and Woodside announced their intention to merge in 2021, which became effective on 1 June 2022. BHP Petroleum policies, standards, processes and procedures were included in the merger agreement and remain valid. Harmonisation of processes between BHP Petroleum and Woodside commenced upon the completion of the merger and will be conducted in a staged manner. The BHP Petroleum HSE Management system (herein referred to as the Woodside (Petroleum Deepwater (PetDW)) HSE Management System) will continue to be used by the Pyrenees Facility until potential changes have been assessed.

The titleholder name change from BHP Petroleum (Australia) Pty Ltd to Woodside Energy (Australia) Pty Ltd was made on 11 July 2022.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 23

Page 20 of 530

Uncontrolled when printed. Refer to electronic version for most up to date information.

1.9 Woodside (PetDW) Management System

All Woodside controlled activities associated with the Petroleum Activity will be conducted in line with:

- Woodside 'Our Values'
- Woodside Environment and Biodiversity Policy
- Woodside (PetDW) Management System
- Woodside (PetDW) Health, Safety and Environment (HSE) Standard.

The Pyrenees Facility is required to maintain up-to-date practices that adhere to the requirements contained in the Woodside (PetDW) HSE Management System and Standard. Activity-specific environmental management measures specific to the Petroleum Activity are implemented through this EP.

1.9.1 Environment policy

In accordance with Regulation 24(a) of the Environment Regulations, Woodside's Environment and Biodiversity Policy is provided in Appendix A of this EP.

1.10 Description of relevant requirements

In accordance with Regulation 21(4) of the Environment Regulations, a description of requirements, including legislative requirements, that apply to the activity and are relevant to the management of risks and impacts of the Petroleum Activity are detailed in Appendix B. This EP will not be assessed under the *Environmental Protection Act 1986* (WA) as the activity does not occur on State land or within State waters.

1.10.1 Offshore Petroleum and Greenhouse Gas Storage Act 2006 (Cth)

The *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth) (OPGGs Act) regulates exploration and production activities beyond three nautical miles (NM) of the mainland (and islands) to the outer extent of the Australian Exclusive Economic Zone at 200 NM.

This EP provides relevant information in relation to section 572 of the OPGGS Act, as detailed in Table 1-3.

Table 1-3: Relevant requirements of the Offshore Petroleum and Greenhouse Gas Storage Act

Section number	Relevant requirement	Relevant section of the EP
Section 572 – Maintenance and removal of property et. by titleholder		
2	A titleholder must maintain in good condition and repair all structures that are, and all equipment and other property that is: (a) in the title area, and (b) used in connection with the operations authorised by the permit, lease, licence or authority.	Section 3.19
3	A titleholder must remove from the title area all structures that are, and all equipment and other property that is, neither used nor to be used in connection with the operations: (a) in the title area, and (b) used in connection with the operations authorised by the permit, lease, licence or authority.	Section 7.7
7	This section has effect subject to: (a) any other provision of this Act, and (b) the regulations, and (c) a direction given by NOPSEMA or the responsible Commonwealth Minister under: (i) Chapter 3, or (ii) this Chapter, and (d) any other law.	Section 7.7

Under the OPGGS Act, the Environment Regulations apply to petroleum activities in Commonwealth Waters and are administered by NOPSEMA. The objective of the Environment Regulations is to ensure petroleum activities are performed in a manner:

- consistent with the principles of ecological sustainable development
- by which the environmental impacts and risks of the activity will be reduced to ALARP
- by which the environmental impacts and risks of the activity will be of an acceptable level.

1.10.2 **Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (Cth)**

One of the objective of the EPBC Act is to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places in Australia. These are defined under Part 3 of the Act as 'matters of national environmental significance' (MNES). The EPBC Act sets a regime which aims to ensure actions taken on (or impacting upon) Commonwealth land or waters are consistent with the principles of ecological sustainable development. When a person proposes to take an action that they believe may need approval under the EPBC Act, they must refer the proposal to the Commonwealth Minister for the Environment and Water.

The Pyrenees Petroleum Field was referred for assessment under the EPBC Act in 2005 (EPBC 2005/2034) and was determined to be a Controlled Action as defined in Part 3 of the EPBC Act. The level of assessment was set at an Environmental Impact Statement, and the action was subsequently approved with conditions on 26 April 2006. Consolidated Approval Notice – Pyrenees Oil Field (EPBC 2005/2034) dated 8 September 2015 was issued to consolidate the approval conditions, and the approval conditions were subject to variation on the date of the notice. A key element to the variation relates to conditions requiring a plan for managing the impacts of the action. The previous conditions required the Minister's approval of such plans. The variation now automatically deems the plan to have been approved by the Minister if the measures are:

- included in an environment plan related to the action that was submitted to NOPSEMA after 27 February 2014
- in force under the Environment Regulations.

Conditions relating to the EPBC Act approval that are considered relevant to the scope of this EP are provided in Table 1-4.

Table 1-4: Conditions from Pyrenees Petroleum Field development (EPBC 2005/2034) relevant to the Petroleum Activity

Section number	Relevant requirement	Relevant section of the EP
1 (c)	The person taking the actions must submit, for the Minister's approval, a plan (or plans) for managing the offshore impacts of the action. The plan (or plans) must include measures for operations • trading tanker vetting procedures • produced formation water and naturally occurring radioactivity materials monitoring and management • interaction procedures for supply vessels and aircraft that are consistent with Part 8 of the Environment Protection and Biodiversity Conservation Regulations 2000 • monitoring of noise effects of operations on cetaceans, and • cetacean and whale shark sightings reporting. Individual offshore activities may not commence until the plan (or plans) for that specific activity has been approved. The approved plan (or plans) must be implemented.	Section 7.11.4.4 Sections 3.20.3, 6.7.6 and 6.8.9 Section 6.7.4 Section 6.7.4 Section 7.14.3.2

Section number	Relevant requirement	Relevant section of the EP
2.	The person taking the action must submit for the Minister's approval an oil spill contingency plan to mitigate the environmental effects of any hydrocarbon spills. The oil spill contingency plan must include: - the types of dispersants, protective booms, clean up gear, and related equipment to be used in the event of an oil spill and their storage arrangements - a demonstrated capacity to deploy oil spill response equipment within 12 hours - training of staff in oil spill response measures - identification of sensitive areas, in particular, Ningaloo Marine Park, and specific response measures for these areas - the reporting of oil spill incidents.	Appendix H Appendix I Section 7.16.2
3.	The person taking the action must submit a decommissioning plan for approval by the Minister that considers the removal of all structures and components above the sea floor, including floating production, storage and offtake vessels, subsea wells, flowlines, and any other associated infrastructure. Decommissioning may not commence until the plan is approved. The approved plan must be implemented.	Decommissioning is beyond the scope of the EP
10.	A plan required by condition 1, 2, 3 or 6 is automatically deemed to have been submitted to, and approved by, the Minister if the measures (as specified in the relevant condition) are included in an environment plan (or environment plans) relating to the taking of the action that: - was submitted to NOPSEMA after 27 February 2014, and - either: - is in force under the OPGGS Environment Regulations, or - has ended in accordance with Regulation 25A of the OPGGS Environment Regulations.	The implementation of this EP is considered to meet this condition
10A.	Where a plan required by condition 1, 2 or 6 has been approved by the Minister and the measures (as specified in the relevant condition) are included in an environment plan (or environment plans) that: - was submitted to NOPSEMA after 27 February 2014, and - either: i. is in force under the OPGGS Environment Regulations; or ii. has ended in accordance with Regulation 25A of the OPGGS Environment Regulations the plan approved by the Minister no longer needs to be implemented.	The implementation of this EP is considered to meet this condition and supersedes previously approved plans
10B.	Where an environment plan, which includes measures specified in the conditions referred to in conditions 10 and 10A above, is in force under the OPGGS Environment Regulations that relates to the taking of the action, the person taking the action must comply with those measures as specified in that environment plan.	The implementation of this EP is considered to meet this condition

1.10.2.1 Recovery plans and threat abatement plans

Under section 139(1)(b) of the EPBC Act, the Minister for the Environment and Water must not act inconsistently with a recovery plan for a listed threatened species or ecological community or a threat abatement plan for a species or community protected under the EPBC Act. Similarly, under section 268 of the EPBC Act:

a Commonwealth agency must not take any action that contravenes a recovery plan or a threat abatement plan.

In relation to offshore petroleum activities in Commonwealth waters, these requirements are implemented by NOPSEMA via the commitments in the EP. Relevant recovery plans or threat abatement plans relevant to the scope of this EP have been identified as described and assessed in Section 6.9.

1.10.2.2 Australian Marine Parks

Under the EPBC Act, Australian Marine Parks (AMPs), formally known as Commonwealth Marine Reserves, are recognised for conserving marine habitats and the species that live and rely on these habitats. The Director of National Parks (DNP) is responsible for managing AMPs (supported by Parks Australia) and is required to publish management plans for them. Other parts of the Commonwealth Government must not perform functions or exercise powers in relation to these parks that are inconsistent with management plans (section 362 of the EPBC Act). Relevant AMPs are listed in Section 4.8 and described in Appendix J. The North-west Marine Parks Network Management Plan describes the requirements for management.

1.10.2.3 World Heritage properties

Australian World Heritage management principles are prescribed in Schedule 5 of the EPBC Regulations 2000. Management principles that are considered relevant to the scope of this EP are provided in Table 1-5.

Table 1-5: Relevant management principles under Schedule 5 – Australian World Heritage management principles of the EPBC Act

Number	Principle	Relevant section of the EP
3	Environmental impact assessment and approval 3.01 This principle applies to the assessment of an action that is likely to have a significant impact on the World Heritage values of a property (whether the action is to occur inside the property or not). 3.02 Before the action is taken, the likely impact of the action on the World Heritage values of the property should be assessed under a statutory environmental impact assessment and approval process. 3.03 The assessment process should: - identify the World Heritage values of the property that are likely to be affected by the action, and - examine how the World Heritage values of the property might be affected, and - provide for adequate opportunity for public consultation. 3.04 An action should not be approved if it would be inconsistent with the protection, conservation, presentation or transmission to future generations of the World Heritage values of the property. 3.05 Approval of the action should be subject to conditions that are necessary to ensure protection, conservation, presentation or transmission to future generations of the World Heritage values of the property. 3.06 The action should be monitored by the authority responsible for giving the approval (or another appropriate authority) and, if necessary, enforcement action should be taken to ensure compliance with the conditions of the approval.	3.01 and 3.02: Assessment of significant impact on World Heritage values is included in Section 6. Principles are met by the submitted EP. 3.03 (a) and (b): World Heritage values are identified in Section 4 and considered in the assessment of impacts and risks for the Petroleum Activity assessed in Section 6. 3.03 (c): 3.03 (c): Relevant stakeholder consultation and feedback received in relation to impacts and risks to the Shark Bay World Heritage property, Ningaloo Coast World Heritage property, and Murujuga Cultural Landscape World Heritage property are outlined in Section 4 and Appendix F. 3.04, 3.05 and 3.06: Principles are considered to be met by the acceptance of this EP. For consideration of the protection, conservation, presentation or transmission to future generations of the World Heritage values of the property, refer to Section 6.

Note that Section 1 – General Principles and 2 – Management Planning of Schedule 5 are not considered relevant to the scope of this EP and, therefore, have not been included.

2 ENVIRONMENT PLAN PROCESS

2.1 Overview

This section outlines the process taken by Woodside to prepare this EP. This process describes the activity, the existing environment, followed by the environmental risk management methodology used to identify, analyse and evaluate risks to meet ALARP levels and acceptability requirements, and develop EPOs and EPSs. This section also describes Woodside's risk management methodologies as applied to implementation strategies for the activity. The process described is repeated in full with each five-year revision of the EP, having regard for changes to operational requirements as well as ensuring the environmental management practice applied is contemporary and good industry practice.

Regulation 21(5) of the Environment Regulations requires the EP to include details of the environmental impacts and risks of the Petroleum Activity, and an evaluation of all the environmental impacts and risks, appropriate to the nature and scale of each impact or risk. The objective of the risk assessment process described in this section is to identify risks and associated impacts of an activity, so they can be assessed, and appropriate control measures applied to eliminate, control or mitigate the impact/risk to ALARP, and to determine if the impact or risk level is acceptable.

Environmental impacts and risks include those directly and indirectly associated with the Petroleum Activity, and include potential emergency and accidental events:

- Planned activities have the inherent potential to cause environmental impacts.
- Environmental risks are unplanned events with the potential for environmental impact (termed risk 'consequence').

Herein, potential impacts from planned activities are termed 'impacts', whereas 'risks' are associated with unplanned events with the potential for environmental impact (should the risk be realised), with such impacts termed potential 'consequences'.

2.2 Environmental risk management methodology

2.2.1 Woodside (PetDW) risk management process

Woodside recognises that risk is inherent to its business and that effective management of risk is vital to delivering on company objectives, success and continued growth. Woodside is committed to managing risk proactively and effectively. The objective of Woodside's PetDW risk management system is to provide a consistent process for recognising and managing risks across Woodside's PetDW business. Achieving this objective includes ensuring risks consider impacts across these key areas of exposure: health and safety, environment, finance, reputation and brand, legal and compliance, and social and cultural.

The environmental risk management methodology used in this EP is based on Woodside's PetDW Risk Management Procedure. This procedure aligns to industry standards, such as International Organization for Standardization (ISO) 31000.

The risk management methodology provides a framework to demonstrate that risks and impacts are continually identified, reduced to ALARP and assessed to be at an acceptable level, as required by the Environment Regulations. A description of each step and how it is applied to the scopes of this activity is provided in Section 2.2 to Section 2.11.

2.2.2 Impact assessment process

To support effective environmental risk assessment, the impact assessment process illustrated in Figure 2-1 is used. This provides the steps undertaken to meet the required environment, health and social standards by ensuring impact assessments are undertaken appropriate to the nature and scale of the activity, the regulatory context, the receiving environment, interests, concerns and rights of relevant persons, and the applicable framework of standards and practices.

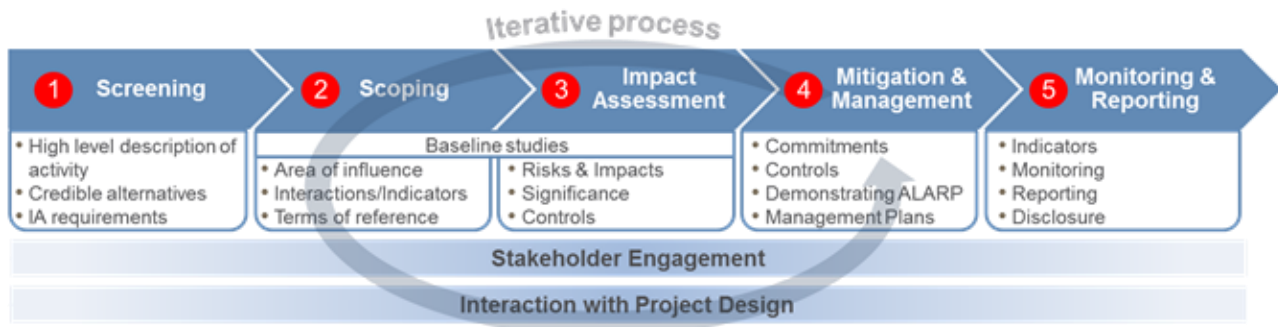


Figure 2-1: Impact assessment process

2.3 Environment Plan development process

The EP development process is illustrated in Figure 2-2. Each element of this process is discussed further in Section 2.4 to Section 2.10.

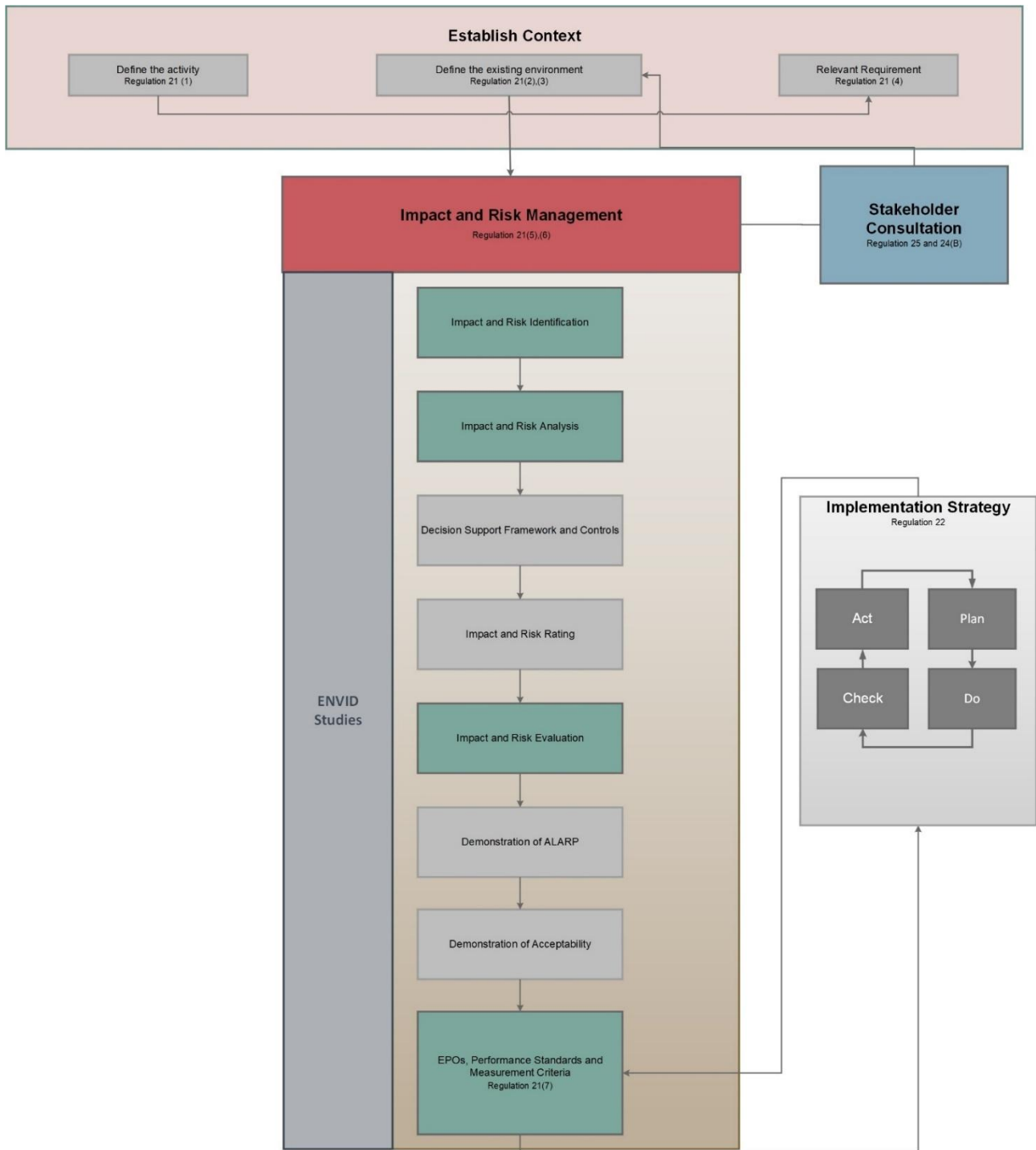


Figure 2-2: EP development process

2.4 Establish the context

2.4.1 Define the activity

This first stage involves evaluating whether the activity meets the definition of a 'petroleum activity' as defined in the Environment Regulations.

The activity is then described in relation to:

- the location
- what is to be undertaken
- how it is planned to be undertaken, including outlining operational details of the activity and proposed timeframes.

The 'what' and 'how' are described in the context of 'environmental aspects'¹ to inform the risk and impact assessment for planned (routine and non-routine) and unplanned (accidents, incidents, emergency conditions) activities.

The activity is described in Section 3 and is referred to as the Petroleum Activity.

2.4.2 Define the existing environment

The existing environment that may be affected by the Petroleum Activity is defined by considering the nature and scale of the activity (size, type, timing, duration, complexity, and intensity of the activity), as described in Section 3. The purpose is to describe the existing environment that may be impacted by the activity, directly or indirectly, by planned or unplanned events.

A description of values and sensitivities relevant to Woodside's North West Shelf Operations is contained within the Master Existing Environment document. The Master Existing Environment is provided in Appendix J and is revised in accordance with Woodside's management of knowledge process as information contained within is superseded or new information arises (Section 7.11.2).

The Master Existing Environment (Section 4) is structured into subsections defining the physical, biological, socio-economic and cultural attributes as relevant to the activity, in accordance with the definition of 'environment' in Regulation 5 of the Environment Regulations. These subsections make particular reference to:

- the environmental, and social and cultural consequences as defined by Woodside (refer to Table 2-3), which address key physical and biological attributes, as well as social and cultural values of the existing environment – these consequence definitions are applied to the impact and risk analysis (refer Section 2.6) and rated for planned and unplanned activities; additional detail is provided for unplanned hydrocarbon spill risk evaluation
- EPBC Act MNES, including listed threatened species and ecological communities and listed migratory species – defining the spatial extent of the existing environment is guided by the nature and scale of the Petroleum Activity (and associated sources of environmental risk); this considers the Operational Area and wider environment that may be affected (EMBA), as determined by the hydrocarbon spill risk assessments presented in Section 6.8; MNES, as defined under the EPBC Act, are addressed through Woodside's PetDW impact and risk assessment (Section 6)
- relevant values and sensitivities, which may include world or national heritage listed areas, listed threatened species or ecological communities, listed migratory species, or sensitive values.

By grouping potentially impacted environmental values by aspect (as presented in Table 2-1), the presentation of information about the receiving environment is standardised. This information is then consistently applied to the risk evaluation section to provide a robust approach to the overall environmental risk evaluation and its documentation in the EP.

¹ An environmental aspect is an element of the activity that can interact with the environment.

Table 2-1: Example of the environment values potentially impacted that are assessed within the EP

Environmental value potentially impacted Regulations 21(2)(3)						
Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/ habitats	Species	Socio-economic

2.4.3 Relevant requirements

The relevant requirements in the context of legislation, other environmental approval requirements, conditions and standards that apply to the Petroleum Activity are identified and reviewed and are presented in Appendix B.

The Woodside Environment and Biodiversity Policy is presented in Appendix A.

2.5 Impact and risk identification

Relevant environmental aspects and hazards have been identified that support the process to define environmental impacts and risks associated with an activity.

The environmental impact and risk assessment presented in this EP has been informed by recent and historic hazard and environmental risk identification studies (e.g. HAZID/ENVID) and consequence modelling studies for high consequence, low probability environmental risks. These studies have been reviewed and revalidated, as required, with the five-year revision of this EP. Woodside also considers environmental performance and compliance information gathered during the implementation phase of the in-force EP. Further, ongoing feedback from NOPSEMA to Woodside across its portfolio of environment plans has been considered and integrated, where relevant.

Impacts, risks and potential consequences were identified based on planned and potential interaction with the activity (based on the description in Section 3), the existing environment (Section 4) and the outcomes of Woodside's consultation process (Section 5). The environmental outputs of applicable risk and impact workshops and associated studies are referred to as ENVID in this EP.

An environmental impacts and risks identification and assessment workshop was undertaken by multidisciplinary teams comprising relevant operational and environmental personnel with sufficient breadth of knowledge, training and experience to reasonably assure that risks and impacts were identified, and their potential environmental consequences assessed. Impacts and risks were identified, during the workshop, for both planned (routine and non-routine) activities and unplanned (accidents, incidents, emergency conditions) events. During this process, risks identified as not applicable (not credible) were removed from the assessment.

Impacts and risks were evaluated and tabulated for each planned activity and unplanned events respectively. Environmental impacts and risks were recorded in an environmental impacts and risk register. The output of the workshop is used to present the risk assessment and form the basis of EPOs, EPSs, and MC. This information is presented in Section 6, following the format presented in Table 2-2.

Table 2-2: Example of layout of identification of risks and impacts in relation to risk sources

Impacts and risks evaluation summary														
Source of impact/risk	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Summary of source of impact/risk														

2.6 Impact and risk analysis

Risk analysis further develops the understanding of a risk by defining the impacts and assessing appropriate controls, as well as considering previous risk assessments for similar activities, relevant studies, past performance, relevant persons feedback, and the existing environment.

These key steps were undertaken for each identified risk during the risk assessment:

- Identify the decision type in accordance with the decision support framework.
- Identify appropriate control measures (preventive and mitigation) aligned with the decision type.
- Assess the risk rating.

2.6.1 Decision support framework

To support the risk assessment process and the determination of acceptability (Section 2.7.2), Woodside's PetDW environmental risk management process includes the use of a decision support framework based on principles set out in the Guidance on Risk-Related Decision-Making (Oil and Gas UK, 2014) (Figure 2-3). This concept is integrated into the environmental impacts and risks identification and assessment workshop to determine the level of supporting evidence that may be required to draw sound conclusions regarding risk level and whether the risk is acceptable and ALARP. Application of the decision support framework confirms:

- activities do not pose an unacceptable environmental risk
- appropriate focus is placed on activities where the impact or risk is anticipated to be acceptable and demonstrated to be ALARP
- appropriate effort is applied to manage risks and impacts based on the uncertainty of the risk, the complexity and risk rating (i.e. potential higher order environmental impacts are subject to further evaluation/assessment).

The framework provides appropriate tools commensurate to the level of uncertainty or novelty associated with the risk/impact (referred to as the Decision Type A, B, or C). The decision type is selected based on an informed discussion around the uncertainty of the risk/impact and is documented in impact and risk register worksheets.

This framework enables Woodside to appropriately understand a risk and determine if the risk or impact is acceptable and can be demonstrated to be ALARP.

2.6.1.1 Decision Type A

Decision Type A risks and impacts are well understood and established practice. They are generally recognised as good industry practice and are often embodied in legislation, codes and standards, and use professional judgment.

2.6.1.2 Decision Type B

Decision Type B risks and impacts typically involve greater uncertainty and complexity; and can include potential higher-order impacts/risks. These risks may deviate from established practice or have some lifecycle implications and therefore require further engineering risk assessment to support the decision and ensure the risk is ALARP. Engineering risk assessment tools may include:

- risk-based tools such as cost-based analysis or modelling
- consequence modelling
- reliability analysis
- company values.

2.6.1.3 Decision Type C

Decision Type C risks and impacts typically have significant risks related to environmental performance. Such risks typically involve greater complexity and uncertainty therefore requiring the adoption of the precautionary approach. The risks may result in significant environmental impact, significant project risk/exposure, or may elicit relevant persons' concern. For these risks or impacts, in addition to Decision Type A and B tools, company and societal values need to be considered by undertaking broader internal and external consultation as part of the risk assessment process.

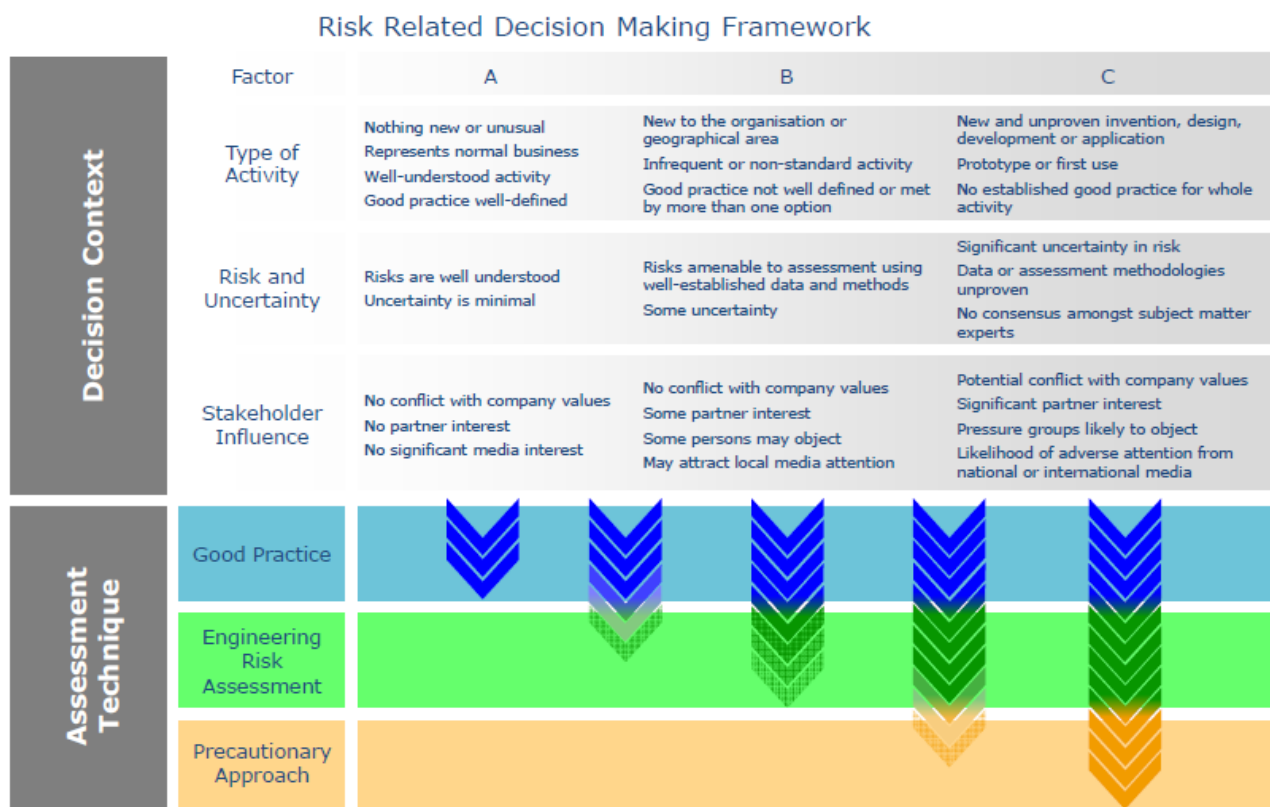


Figure 2-3: Risk-related Decision-making Framework (Oil and Gas UK, 2014)

2.6.1.4 Decision support framework tools

These framework tools are applied, as appropriate, to help identify control measures based on the decision type described above:

- Legislation, codes and standards (LCS) – identifies the requirements of legislation, codes and standards that are to be complied with for the activity.
- Good industry practice (GP) – identifies further engineering control standards and guidelines that may be applied by Woodside above that required to meet the LCS.

- Professional judgement (PJ) – uses relevant personnel with the knowledge and experience to identify alternative controls. Woodside applies the hierarchy of control as part of the risk assessment to identify any alternative measures to control the risk.
- Risk-based analysis (RBA) – assesses the results of probabilistic analyses such as modelling, quantitative risk assessment and/or cost–benefit analysis to support the selection of control measures identified during the risk assessment process.
- Company values (CV) – identifies values identified in Woodside’s code of conduct, policies and the Woodside Our Values. Views, concerns and perceptions are to be considered from internal Woodside stakeholders directly affected by the planned impact or potential risk.
- Societal values (SV) – identifies the views, concerns, and perceptions of relevant persons and addresses those views, concerns and perceptions.

2.6.1.4.1 Decision calibration

To determine that the alternatives selected and control measures applied are suitable, these tools may be used for calibration (i.e. checking) where required:

- LCS/verification of predictions – Verification of compliance with applicable LCS and/or good industry practice.
- Peer review – Independent peer review of PJ, supported by RBA, where appropriate.
- Benchmarking – Where appropriate, benchmarking against a similar facility or activity type or situation that has been deemed to represent acceptable risk.
- Internal consultation – Consultation undertaken within Woodside to inform the decision and verify company values are met.
- External consultation – Consultation undertaken to inform the decision and verify societal values are considered.

Where appropriate, additional calibration tools may be selected specific to the decision type and the activity.

2.6.2 Control measures (hierarchy of controls)

Risk reduction measures are prioritised and categorised in accordance with the hierarchy of controls, where risk reduction measures at the top of the hierarchy take precedence over risk reduction measures further down:

- **Elimination** of the risk by removing the hazard.
- **Substitution** of a hazard with a less hazardous one.
- **Engineering controls** include design measures to prevent or reduce the frequency of the risk event, or detect or control the risk event (limiting the magnitude, intensity and duration) such as:
 - prevention: design measures that reduce the likelihood of a hazardous event occurring
 - detection: design measures that facilitate early detection of a hazardous event
 - control: design measures that limit the extent/escalation potential of a hazardous event
 - mitigation: design measures that protect the environment if a hazardous event occurs
 - response equipment: design measures or safeguards that enable clean-up/response after a hazardous event occurs.
- **Procedures and administration** includes management systems and work instructions used to prevent or mitigate environmental exposure to hazards.
- **Emergency response and contingency planning** includes methods to enable recovery from the impact of an event (e.g. protection barriers deployed near the sensitive receptor).

2.6.3 Impact and risk classification

Environmental impacts and risks are assessed to determine the potential impact severity/consequence using the process shown in Figure 2-4.

Impacts are classified in accordance with the consequence severity (Table 2-3). The assigned severity level is determined after identifying the decision type and appropriate control measures.

Risks are assessed qualitatively and/or quantitatively in terms of both likelihood and consequence severity in accordance with the Woodside PetDW Risk Matrix (see Figure 2-5).

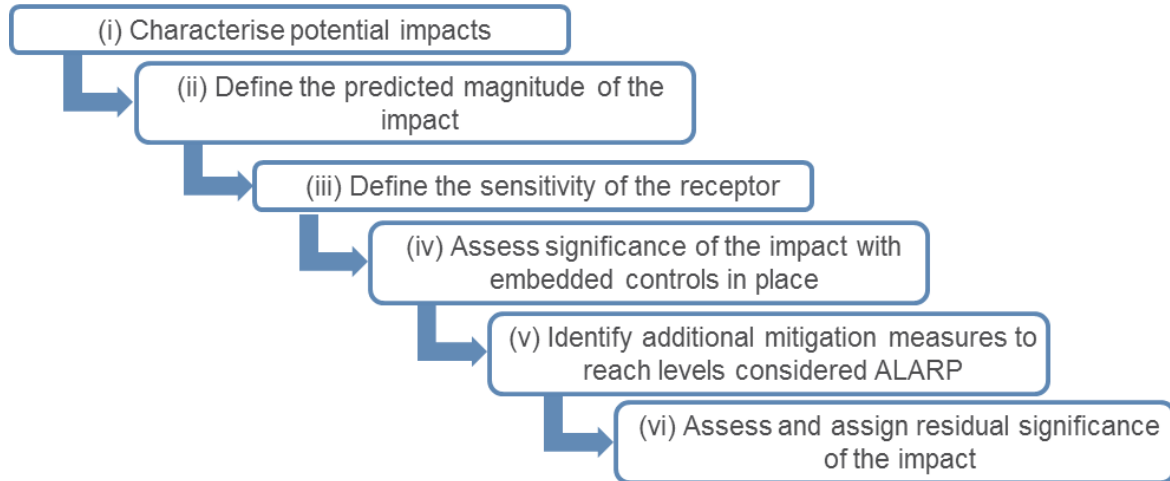


Figure 2-4: Environmental risk and impact analysis

Table 2-3: Woodside Petroleum Deepwater (PetDW) Risk Matrix (environment and social and cultural) consequence severity descriptions, severity levels and severity factors

Environment	Social and cultural	Severity level	Severity factor
Severe impact to the environment and where recovery of ecosystem function takes 10 years or more.	Severe impact on community lasting more than 12 months or a substantiated human rights violation impacting six or more people.	5 – Severe	1,000
Serious impact to the environment and where recovery of ecosystem function takes between three years and up to 10 years.	Serious impact on community lasting six to 12 months or a substantiated human rights violation impacting one to five people.	4 – Serious	300
Substantial impact to the environment and where recovery of ecosystem function takes between one year and up to three years.	Substantial impact on community lasting two to six months.	3 – Substantial	100
Measurable but limited impact to the environment, where recovery of ecosystem functions takes less than one year.	Measurable but limited impact on community lasting less than one month.	2 – Measurable	30
Minor temporary impact to the environment, where the ecosystem functions recover with little intervention.	Minor temporary community impact that recovers with little intervention.	1 – Minor	10

The impact and risk information, including classification and evaluation information as shown in the example (Table 2-2), are tabulated for each planned activity and unplanned event.

2.6.3.1 Risk rating process

The risk rating process assigns a level of risk to each risk event, measured in terms of consequence severity and likelihood. The assigned risk rating is determined with controls in place; therefore, the risk rating is determined after identifying the decision type and appropriate control measures. This is also commonly called residual risk.

The risk rating process considers the potential environmental consequences severity and, where applicable, the social and cultural consequences severity of the risk. The risk ratings are assigned using the Woodside PetDW Risk Matrix (refer to Figure 2-5). The risk matrix delivers a risk rating, which is a score for prioritisation purposes.

The risk rating process is undertaken using the steps described in the subsections below.

2.6.3.1.1 Select the severity level

Determine the worst-case credible consequence severity (Table 2-3) associated with the selected event, assuming all controls (preventive and mitigative) are absent or have failed. If more than one potential consequence severity applies, select the highest severity consequence level.

2.6.3.1.2 Select the likelihood level

Determine the description that best fits the chance of the selected consequence severity occurring, assuming reasonable effectiveness of the prevention and mitigation controls (Table 2-4).

Table 2-4: Woodside PetDW Risk Matrix likelihood level definitions

Description	Frequency	Likelihood factor
Highly Likely	Likely to occur within a one year period	3
Likely	Likely to occur within a one to five year period	1
Possible	Likely to occur within a five to 20 year period	0.3
Unlikely	Likely to occur within a 20 to 50 year period	0.1
Highly Unlikely	Not likely to occur within a 50 year period	0.03

2.6.3.1.3 Calculate the risk rating

The risk rating is derived from the consequence severity factor and likelihood level factors above, in accordance with the Woodside PetDW Risk Matrix shown in Figure 2-5. Risk ratings in the green zone are considered 'Tolerable' and require no further treatment to reach ALARP. Risk ratings in the red zone are considered higher-order risks, which must be considered further.

A likelihood and risk rating are only applied to environmental risks, not environmental impacts from planned activities.

This risk rating is used as an input into the risk evaluation process and ultimately for prioritising further risk reduction measures. Once each risk is treated to ALARP, the risk rating articulates the ALARP baseline risk as an output of the ENVID studies.

Likelihood	Severity Level				
	1	2	3	4	5
Highly Likely	30	90	300	900	3000
Likely	10	30	100	300	1000
Possible	3	9	30	90	300
Unlikely	1	3	10	30	100
Highly Unlikely	0.3	0.9	3	9	30

Figure 2-5: Woodside PetDW Risk Matrix – risk levels

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

2.7 Impact and risk evaluation

Environmental impacts and risks cover a wider range of issues, differing species, persistence, reversibility, resilience, cumulative effects, and variability in severity than safety risks. Determining the degree of environmental risk, and the corresponding threshold for whether a risk/impact has been reduced to ALARP and is acceptable, is evaluated to a level appropriate to the nature and scale of each impact or risk. Evaluation includes considering the:

- decision type
- principles of ecological sustainable development – as defined under the EPBC Act
- internal context – ensuring the proposed controls and risk level are consistent with Woodside policies, procedures and standards
- external context – the environment consequence (Section 6) and stakeholder acceptability (Section 5)
- other requirements – ensuring the proposed controls and risk level are consistent with national and international standards, laws and policies.

In accordance with Environment Regulations 34(a), 34(b), 34(c) and 13(5)(b), Woodside applies the process described in the subsections below to demonstrate ALARP and acceptability for environmental impacts and risks, appropriate to the nature and scale of each impact or risk.

2.7.1 Demonstration of ‘as low as reasonably practicable’ (ALARP)

The descriptions in Table 2-5 articulate how Woodside demonstrates that different risks, impacts and decision types identified within the EP are ALARP.

Table 2-5: Summary of Woodside’s PetDW criteria for ALARP demonstration

Decision type	Demonstration of ALARP
Decision Type A	Demonstrating ALARP for lower-order (‘Type A’) impacts or risks. Identified regulatory, corporate and industry good practice controls are implemented, Woodside considers the impact or risk to be managed to ALARP and no further detailed engineering evaluation of controls is required. The application of feasible and readily implementable alternate, additional or improved controls may be adopted opportunistically when demonstrated to further reduce potential environmental impacts or risks.
Decision Type B	Demonstrating ALARP for higher-order (‘Type B’) impacts or risks/ In addition to relevant regulatory, corporate and industry good practice controls being implemented, alternate, additional or improved controls should be proposed and evaluated according to their feasibility, reasonableness and practicability to implement to further reduce the potential for impacts and risks associated with the activities. Woodside applies a cost and benefit analysis when evaluating additional controls and applies those that are both feasible and where the cost (safety, time, effort and financial) are not grossly disproportionate to the potential reduction in environmental impact or risk afforded by the control.
Decision Type C	Demonstrating ALARP for highest-order (‘Type C’) impacts or risks Alternate, additional, or improved controls over and above relevant regulatory, corporate and industry good practice must be proposed and evaluated based upon a precautionary approach. Woodside ensures feasible controls that have the potential to reduce environmental impacts and risks are implemented, when safe to do so and irrespective of the additional effort, time or financial cost associated with implementing the control.

2.7.2 Demonstration of acceptability

The descriptions in Table 2-6 articulate how Woodside demonstrates how different risks, impacts and decision types identified within the EP are acceptable.

Table 2-6: Summary of Woodside's PetDW criteria for acceptability

Decision type	Demonstration of acceptability
Decision Type A	Woodside demonstrates these risks, impacts and decision types are 'Broadly Acceptable' if they meet legislative requirements, industry codes and standards, applicable company requirements and industry guidelines. Further effort towards risk reduction (beyond using opportunistic measures) is not reasonably practicable without sacrifices that are grossly disproportionate to the benefit gained.
Decision Type B	Woodside demonstrates these higher order risks, impacts and decision types are 'Acceptable if ALARP' if it can be demonstrated using GP and RBA, if legislative requirements are met and societal concerns are accounted for and the alternative control measures are grossly disproportionate to the benefit gained. In undertaking this process for Moderate and High risks, Woodside evaluates: - the principles of ecological sustainable development as defined under the EPBC Act - the internal context – the proposed controls and consequence/risk level are consistent with Woodside policies, PetDW procedures and standards - the external context – consideration of the environment consequence and relevant persons consultation acceptability are considered - other requirements – the proposed controls and consequence/risk level are consistent with national and international industry standards, laws and policies and consideration of applicable plans for management and conservation advices, conventions and significant impact guidelines (e.g. MNES).
Decision Type C	When an impact or risk has been evaluated as 'highest-order', the potential environmental impact or risk can only be deemed acceptable once the criteria for 'Type B' demonstration of acceptability detailed above has been met and: any alternate, additional or improved controls adopted via implementing a precautionary approach (consistent with the 'Precautionary Principle' as defined within section 3A of the EPBC Act), can demonstrate residual impacts have been lowered, such that a severity level of '4' becomes 'Unlikely' or the severity level of '5' becomes 'Highly Unlikely' based upon the Woodside PetDW Risk Matrix.

2.8 Recovery plan and threat abatement plan assessment

To support the demonstration of acceptability, a separate assessment is undertaken to demonstrate that the EP is not inconsistent with any relevant recovery plans or threat abatement plans (refer Section 1.10.2.1). The steps in this process are:

1. Identify relevant listed threatened species and ecological communities (Section 4.6).
2. Identify relevant recovery plans and threat abatement plans (Section 6.9).
3. List objectives and (where relevant) the action areas of these plans and assess whether these objectives/action areas apply to government, the titleholder and the Petroleum Activity (Section 6.9).
4. For those objectives/action areas applicable to the Petroleum Activity, identify the relevant actions of each plan, and evaluate whether impacts and risks resulting from the activity are clearly not inconsistent with that action (Section 6.9).

2.9 Environmental performance outcomes, environmental performance standards, and measurement criteria

EPOs, EPSs and MC are defined to address the potential environmental impacts and risks. These are explored in Section 6.

2.10 Implement, monitor, review and report

An implementation strategy for the Petroleum Activity describes the specific measures and arrangements to be implemented for the duration of the program. The strategy is based on the principles of Australian Standard/New Zealand Standard ISO 14001 Environmental Management Systems, and demonstrates:

- control measures are effective in reducing the environmental impacts and risks of the Petroleum Activity to ALARP and acceptable levels
- EPOs and EPSs set out in the EP are met through monitoring, recording, auditing, managing non-conformance, and reviewing
- all environmental impacts and risks of the Petroleum Activity are periodically reviewed in accordance with Woodside's risk management procedures
- roles and responsibilities are clearly defined, and personnel are competent and appropriately trained to implement the requirements set out in this EP, including in emergencies or potential emergencies
- arrangements are in place for oil pollution emergencies, to respond to and monitor impacts
- environmental reporting requirements are met, including 'reportable incidents'
- appropriate consultation is undertaken throughout the Petroleum Activity.

The implementation strategy is presented in Section 7.

2.11 Consultation

Woodside consults relevant persons in the course of preparing an EP in accordance with Regulation 25 of the Environment Regulations. Woodside's consultation methodology is presented in Section 5. Woodside's consultation record is at Appendix F.

3 DESCRIPTION OF THE ACTIVITY

3.1 Overview

This section has been prepared in accordance with Regulation 21(1) of the Environment Regulations and describes the activities to be undertaken as part of the Petroleum Activity under this EP. It includes the location of the activity, general details of the facility's layout, the operational details of the activity, and additional information relevant to consideration of environmental risks and impacts.

3.2 Petroleum Activity overview

The Pyrenees Facility produces crude oil from six separate oil fields (Ravensworth, Crosby, Stickle, Tanglehead, Wild Bull [Upper Pyrenees] and Moondyne) via a standalone floating production, storage and offtake facility (FPSO) in production licences WA-42-L and WA-43-L.

Production commenced in February 2010, with an annual current production rate (correct as of end 2023) from the Pyrenees Facility of 13,000 bbl/day. Production has been declining since about 2011 (Section 3.9.1) and is expected to continue to decline over the life of this EP, until end of field life, which is currently predicted to be around 2035, based on the fields and wells that are currently tied back to the facility. In addition to the production of hydrocarbons from subsea wells, the associated activities conducted over the life of the EP include:

- routine production of crude oil and gas
- routine and non-routine operations of the Pyrenees Venture FPSO and associated subsea infrastructure
- routine injection and production of gas to the Macedon-6 injection well
- PW overboarding and reinjection
- routine offloading of crude oil to cargo tankers
- the use of support vessels and helicopter operations
- routine and non-routine IMMR of the Pyrenees Venture FPSO and associated subsea infrastructure
- disconnection, reconnection and sail-away of the FPSO.

There is also one exploration well with wellhead attached (West Muiron-5) inside the Operational Area. IMMR of the wellhead is part of the Petroleum Activity.

Any future decommissioning, well plug and abandonment, drilling, installation or tie-back activities are subject to future, separate EPs.

This EP is intended to remain in force for up to five years from EP acceptance by the regulator.

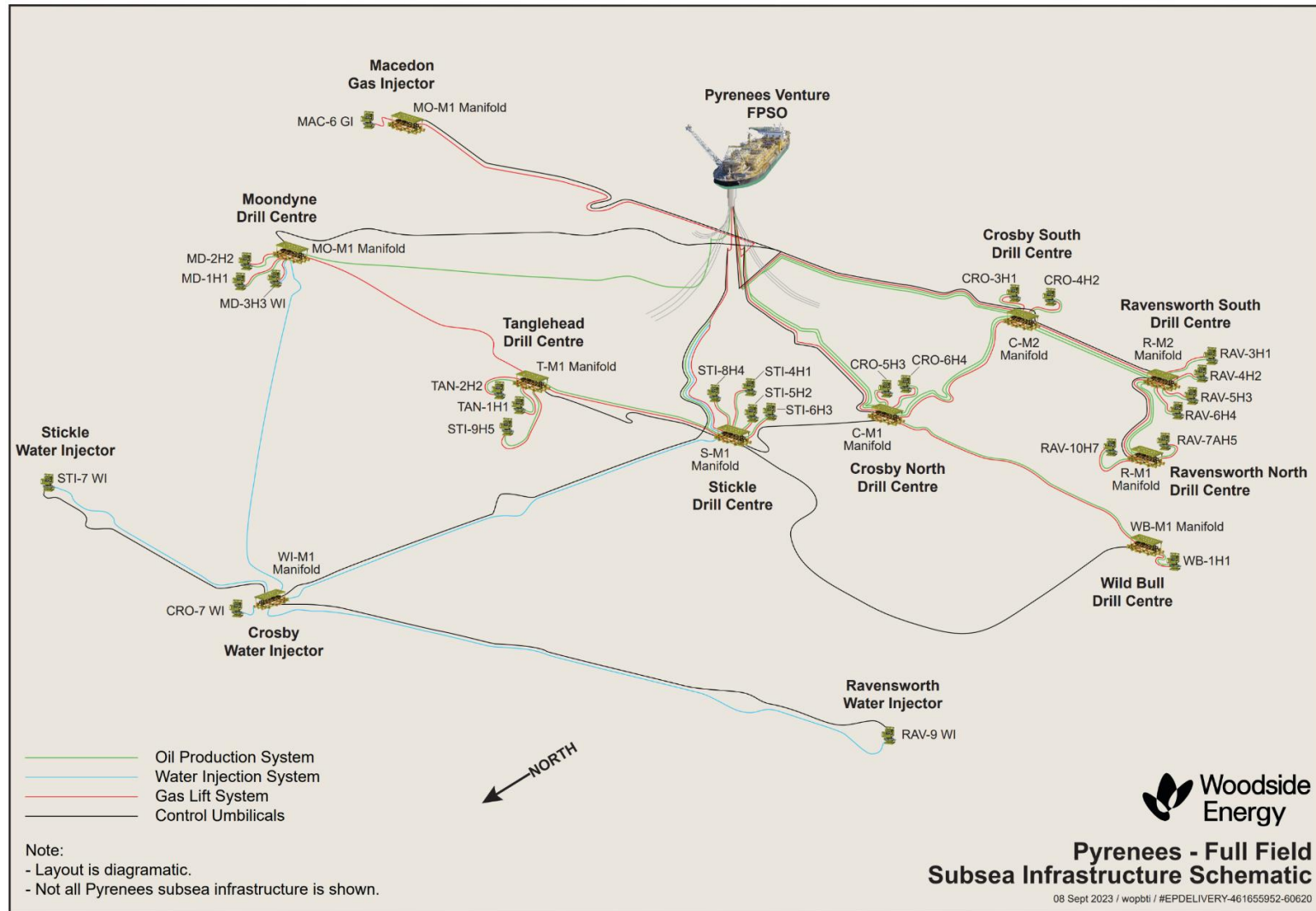


Figure 3-1: Overview of subsea infrastructure layout associated with the Pyrenees Venture FPSO (not to scale)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

A summary of the Petroleum Activity is presented in Table 3-1.

Table 3-1: Petroleum Activity overview

Item	Description
Production licence areas	WA-42-L and WA-43-L
FPSO location	201298 E, 7615199 N
Water depth (lowest astronomical tide) at FPSO location	200 m
End of field life (EOFL) (approx.)	2035
Key components of Pyrenees Venture FPSO facilities	FPSO hull, disconnectable turret and mooring, topside processing equipment and utilities
Key components of subsea infrastructure	26 wells with Xmas trees (including production wells, gas injection wells and water injection wells), manifolds, flowlines/pipelines and umbilicals
Exploration wells with wellheads	West Muiron-5
Vessels	FPSO support vessels, IMMR support vessels, and others appropriate to the nature of petroleum activities
Key activities	• Routine production of crude oil and gas • Routine and non-routine operations of the Pyrenees Venture FPSO and associated subsea infrastructure • Routine injection and production of gas to the Macedon-6 injection well • PW overboarding and reinjection • Routine offloading of crude oil to cargo tankers • The use of support vessels and helicopter operations • Routine and non-routine IMMR of the Pyrenees Venture FPSO and associated subsea infrastructure • Disconnection, reconnection and sail-away of the FPSO

3.3 Location

The Pyrenees Facility is located in Commonwealth waters approximately 45 km northwest of Exmouth, 14 km from the northern boundary of the Ningaloo Marine Park (Commonwealth waters) and 27 km north-northwest and northwest of the North West Cape, in WA (Figure 3-2).

3.3.1 Operational Area

The Operational Area defines the geographical boundary of the Petroleum Activity. The Operational Area is shown in Figure 3-2 and includes:

- the Pyrenees Venture FPSO and an area extending out to 1500 m to allow for offtake activities
- Pyrenees subsea infrastructure, including wells, flowlines, and associated infrastructure, and an area within 1500 m around the infrastructure.

The West Muiron-5 exploration well with wellhead is not connected to the Pyrenees subsea infrastructure and is stand-alone. The location of the wellhead is within the Operational Area.

There is also a Petroleum Safety Zone (PSZ) surrounding the FPSO, which is gazetted under the OPGGS Act (Part 6.6 Safety zones and the area to be avoided) and marked on navigation charts. The PSZ comprises the FPSO 260 m plus 500 m safety zone and extends to a 760 m radius from the internal turret of the Pyrenees Venture FPSO.

Vessels are not permitted to enter the PSZ without the consent of the Pyrenees Facility Offshore Installation Manager (OIM). An additional Cautionary Zone of 5 NM is also in place around the Pyrenees Venture FPSO within which contracted vessels must notify the Pyrenees Facility OIM before entering.

3.4 Timing

The Pyrenees Facility commenced production in 2010. The facility operates 24 hours a day, 365 days a year.

Planned IMMR activities are typically one to two weeks in duration and occur annually, although this is dependent on weather conditions, operational specifics, timing dependent monitoring, previous results and/or downtime. Non-routine IMMR activities could occur at any time during this EP to respond to unforeseen maintenance and/or production requirements. For example, a new water injection manifold to support existing water rejection is anticipated to be installed in 2026, currently anticipated to occur by end August 2026 aligned with scheduled FPSO dry dock.

The Pyrenees Venture FPSO has retained its functionality as a self-propelled seagoing vessel. As a result, it can disconnect from its turret mooring, and sail to a shipyard to complete maintenance. This is typically once every five years, and the FPSO is off station for around two to three months. The FPSO can also disconnect to avoid a cyclone, and is typically off station for a few days to around a week, depending on the cyclone track.

End of field life is informed by the production rates of the facility. Production rates at the facility are expected to continually decline, predicting an end of field life around 2035, based on the fields and wells that are currently tied back to the facility. This EP is intended to remain in force for up to five years from EP acceptance by the regulator.

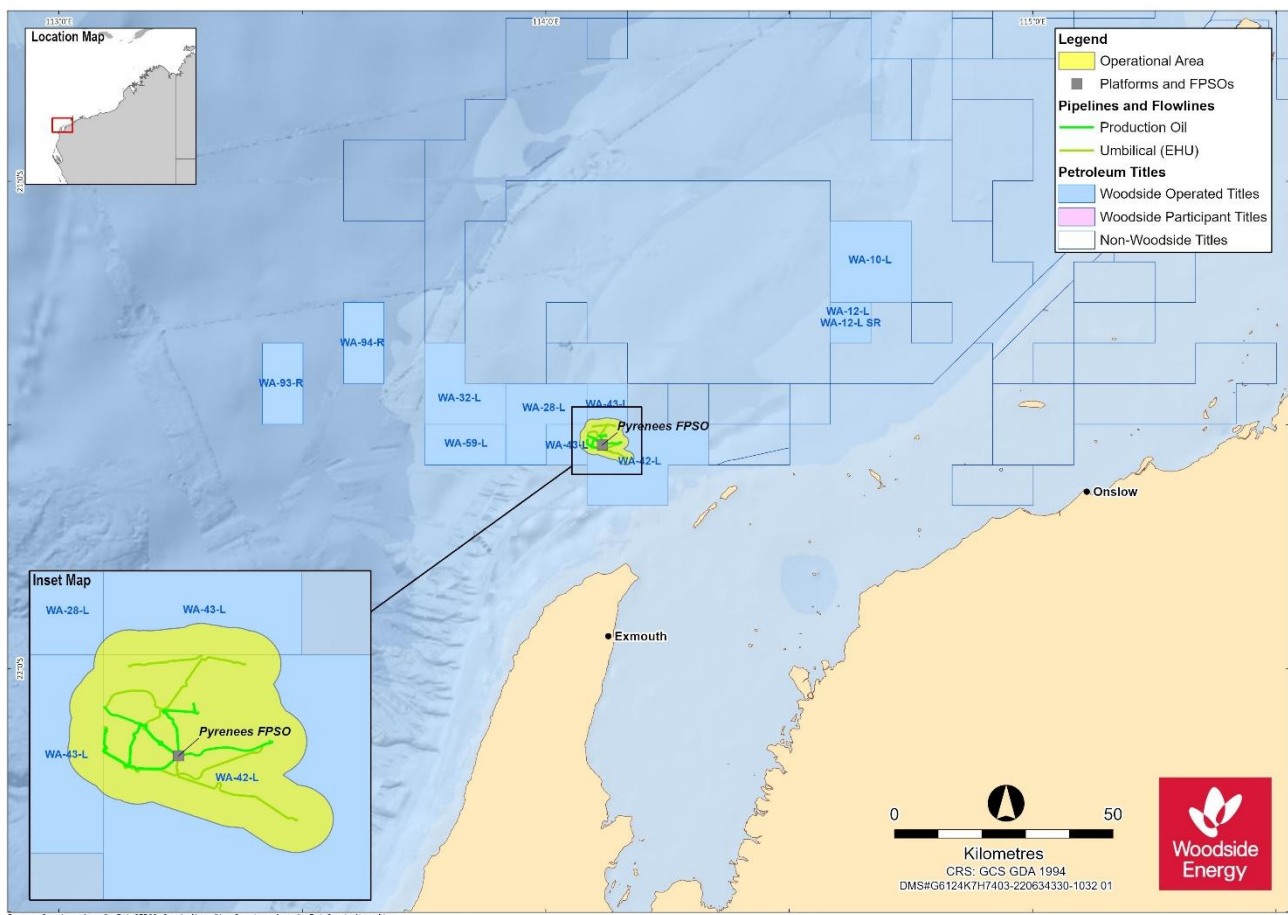


Figure 3-2: Pyrenees Facility location, Operational Area and field layout

3.5 Subsea infrastructure layout and description

This section provides an overview of the subsea infrastructure associated with the Pyrenees Facility as relevant to consideration of the environmental risks and impacts of the Petroleum Activity.

The subsea production system includes production, gas injection and water injection wells connected to the Pyrenees Facility via flexible flowlines and risers via a series of subsea manifolds.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 23

Page 41 of 530

Uncontrolled when printed. Refer to electronic version for most up to date information.

Production and gas lift jumpers connect each production well to its manifold. The manifolds are configured to allow the well fluids to be directed via switching valves to either a production flowline or a production/test flowline. Separate production flowlines and production/test flowlines transport the well fluids from the manifolds to the Pyrenees Facility. Choke valves to control well rates and gas lift rates are also located on the manifolds.

Multi-phase flow meters and gas lift meters are located on incoming production and outgoing gas lift pipework on each manifold. Dedicated gas lift flowlines distribute dehydrated lift gas, however, can also be used to convey well service fluids to allow flowline flushing and well kill operations. Water injection is provided through a single riser and flowline to a manifold, which allows distribution of injection water between the four water injection wells by way of surface-controlled choke valves. Gas injection to the Macedon injection well is via a single riser and flowline terminating at a pipeline end manifold with jumper connection the injection wellhead.

The subsea infrastructure associated with the Pyrenees Facility comprises:

- four mid water arches
- eight riser bases
- subsea manifolds (eight production, one gas, one water injector)
- dynamic flexible risers and dynamic umbilicals
- static flexible flowlines and static umbilicals
- subsea distribution unit and umbilical tension assembly installed with umbilicals
- hydraulic and electrical jumpers
- subsea trees (19 production trees, two suspended production wells, four water injection trees, one gas injection/production).

The subsea infrastructure associated with the Pyrenees Facility is designed to allow the tie-in of additional wells. The mooring and riser system have allowance for further production riser and umbilical systems. Subsea tie-in points are provided at manifolds for future production, test, and gas lift lines. Future water and/or gas injection wells have the capacity to be connected via a manifold. Controls and chemical injection facilities can be provided from umbilical distribution units or termination assemblies. All the process monitoring and instrumented control across the subsea infrastructure associated with the Pyrenees Facility are managed by the central control room on the FPSO.

The layout of the subsea infrastructure associated with the Pyrenees Facility is shown in Figure 3-1 and the coordinates of the production, gas injection/production and water injection wells are provided in Table 3-2 with their location, and that of other key infrastructure. An additional manifold adjacent to existing water injection manifold is to be installed and connected to support continued rejection of water from the existing manifold.

Table 3-2: Approximate location of the FPSO and associated subsea wells¹

Infrastructure	Water depth (approx. m lowest astronomical tide)	Block/ licence area	Well centre	Latitude/ Easting	Latitude/ Northing
Pyrenees Venture FPSO	200	WA-42-L	-	21° 32' 28.127" S E: 201298	114° 06' 58.559" E N: 7615199
Production wells (sidetrack and lateral wells)					
Crosby – 3H1	204	WA-42-L	C-DC2	21° 32' 43.063" S E: 199116	114° 05' 42.504" E N: 7614698
Crosby – 4H2	204	WA-42-L	C-DC2	21° 32' 42.983" S E: 199058	114° 05' 40.468" E N: 7614699
Crosby – 5H3	202	WA-42-L	C-DC1	21° 31' 44.494" S E: 199755	114° 06' 05.848" E N: 7616513

Infrastructure	Water depth (approx. m lowest astronomical tide)	Block/ licence area	Well centre	Latitude/ Easting	Latitude/ Northing
Crosby – 6H4	202	WA-42-L	C-DC1	21° 31' 44.597" S E: 199697	114° 06' 03.838" E N: 7616509
Moondyne – 1H1	191	WA-42-L	MO-DC1	21° 32' 05.450" S E: 205298	114° 09' 17.971" E N: 7615970
Moondyne – 2H2	191	WA-42-L	MO-DC1	21° 32' 05.480" S E: 205349	114° 09' 19.716" E N: 7615970
Ravensworth – 3H1	209	WA-43-L	R-DC2	21° 32' 19.948" S E: 197973	114° 05' 03.263" E N: 7615388
Ravensworth – 4H2	209	WA-43-L	R-DC2	21° 32' 18.922" S E: 197976	114° 05' 03.375" E N: 7615420
Ravensworth – 5H3	208	WA-43-L	R-DC2	21° 32' 17.275" S E: 198004	114° 05' 04.403" E N: 7615471
Ravensworth – 6H4	208	WA-43-L	R-DC2	21° 32' 16.569" S E: 198002	114° 05' 04.346" E N: 7615493
Ravensworth – 7H5	210	WA-42-L	R-DC1	21° 31' 48.524" S E: 198029	114° 05' 05.832" E N: 7616357
Ravensworth – 8H6 Offline (isolated)	210	WA-42-L	R-DC1	21° 31' 46.283" S E: 198061	114° 05' 06.999" E N: 7615426
Ravensworth – 10H7	209	WA-42-L	R-DC1	21° 31' 48.367" S E: 198128	114° 05' 09.240" E N: 7616364
Stickle – 4H1	199	WA-42-L	S-DC1	21° 31' 23.679" S E: 200591	114° 06' 35.289" E N: 7617169
Stickle – 5H2	199	WA-42-L	S-DC1	21° 31' 22.040" S E: 200545	114° 06' 33.727" E N: 7617219
Stickle – 6H3	199	WA-42-L	S-DC1	21° 31' 21.556" S E: 200527	114° 06' 33.118" E N: 7617233
Stickle – 8H4	198	WA-42-L	S-DC1	21° 31' 23.966" S E: 200648	114° 06' 37.276" E N: 7617161
Stickle – 9H5	195	WA-42-L	T-DC1	21° 31' 09.482" S E: 201968	114° 07' 23.409" E N: 7617632
Tanglehead – 1H1 Offline (isolated)	195	WA-42-L	T-DC1	21° 31' 21.419" S E: 202052	114° 07' 26.103" E N: 7617266
Tanglehead – 2H2	195	WA-42-L	T-DC1	21° 31' 21.587" S E: 202299	114° 07' 27.716" E N: 7617261
Wildbull – 1H1	212	WA-42-L	W-DC1	21° 31' 13.204" S E: 198015	114° 05' 06.058" E N: 7617444
Water injection wells					
Crosby – 7WI	197	WA-42-L	C-DC3	21° 29' 57.596" S E: 202299	114° 07' 36.301" E N: 7619851
Moondyne – 3WI	191	WA-42-L	MO-DC1	21° 32' 03.808" S E: 205298	114° 09' 18.002" E N: 7616020

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Infrastructure	Water depth (approx. m lowest astronomical tide)	Block/ licence area	Well centre	Latitude/ Easting	Latitude/ Northing
Ravensworth – 9WI Online (shut in)	213	WA-42-L	R-DC3	21° 30' 09.554" S E: 199047	114° 05' 43.144" E N: 7619422
Stickle – 7WI	191	WA-42-L	S-DC2	21° 30' 09.273" S E: 204186	114° 08' 41.614" E N: 7619526
Gas injection/production well					
Macedon – 6	181	WA-42-L	M-DC1	21° 34' 03.491" S E: 206599	114° 10' 00.843" E N: 7612360

¹ Accurate at the time of EP submission.

3.6 Suspended infrastructure

Table 3-3 outlines the status of suspended subsea infrastructure associated with offline production wells (not currently producing) within WA-42-L and WA-43-L. The Petroleum Activity includes operation of this infrastructure as and when required by Operations. See Section 7.7 for further information.

Table 3-3: Status of Pyrenees suspended infrastructure in WA-42-L and WA-43-L¹

Location	Type	Size	Length (m)	From (Easting/Northing)	To (Easting/Northing)
Tanglehead – 1H1 Tan-M1	Gas lift flowline	2.5-inch	104	Tan Parking Stand 1 E: 202053 N: 7617215	Tan Parking Stand 2 E: 202051 N: 7617278
Tanglehead – 1H1 Tan-M1	Production oil flowline	6-inch	121	Tan Parking Stand 1 E: 202053 N: 7617215	Tan Parking Stand 2 E: 202051 N: 7617278
Tanglehead – 1H1 Tan-M1	Electrical jumper	12-way	123	Tan-1H1 E: 202053 N: 7617266	Tan Parking Stand 2 E: 202051 N: 7617278
Tanglehead – 1H1 Tan-M1	Hydraulic jumper	9-way	127	Tan-1H1 E: 202053 N: 7617266	Tan Parking Stand 2 E: 202051 N: 7617278
Stickle-M1 Stickle-5H2	Gas lift flowline	2.5-inch	580	S-M1 Manifold Centre Point E: 200598 N: 7617229	STI-5H2 E: 200545 N: 7617219
Tanglehead Parking Stand 1	E: 202053 N: 7617215				
Tanglehead Parking Stand 2	E: 202051 N: 7617278				

¹ Accurate at the time of EP submission.

3.7 Exploration well with wellhead

The scope of the Petroleum Activity includes the ongoing management of one exploration well with a wellhead (West Muiron-5) that is not tied back to the Pyrenees Facility and has no associated infrastructure (i.e. no Xmas tree) (Table 3-4). The well is managed under an accepted Well Operations Management Plan (WOMP). The wellhead will continue to be inspected in accordance with the WOMP based on the assessed risk for the well (Section 3.19). Planning for decommissioning is included in Section 7.7.

Table 3-4: Status of West Muiron-5 exploration well

Well	Block (surface location)	Type	Status	Latitude (degrees, minutes, seconds)/ Easting	Latitude (degrees, minutes, seconds)/ Northing
West Muiron-5	WA-42-L	Exploration	Plugged and suspended	21° 32' 52.836" S E: 204627	114° 08' 53.732" E N: 7614499

3.8 Other property including exploration wellheads in the licence areas

The Macedon Gas Development, also operated by Woodside, is located approximately 6 km to the southeast of the FPSO, in the same production licence (WA-42-L). The infrastructure is covered under the approved Macedon Operations EP (Commonwealth) (NOPSEMA Document ID: A1156357, accepted 24 December 2024), including two exploration wells with wellheads associated with the Macedon field (Macedon-4 and West Muiron-4) (Section 1.10.1). All other wells in the WA-42-L and WA-43-L licence areas have been permanently plugged and abandoned and wellheads removed.

3.9 Characteristics of target hydrocarbons

Generally, the crude oil produced from the Pyrenees reservoirs has very similar properties, which is a heavy crude (American Petroleum Institute (API) 19) with some dissolved methane (25 to 30 mol%, ~2 %wt). There are very small quantities of lighter hydrocarbons and no hydrogen sulphide within the well streams. However, there is minor potential for reservoir souring to occur over time as PW injection volumes increase. Up to 2.2 mol% carbon dioxide is present in the well streams.

All Pyrenees crude oils can be classified as Group III oils under the International Tanker Owners Pollution Federation (ITOPF) classification system, with the crude oil from the Moondyne reservoir considered the most persistent.

The relevant characteristics of the crude oils from each reservoir are provided in Table 6-18.

3.9.1 Production overview

The Pyrenees production forecast (amount of oil that is expected to be produced) is developed using an agreed set of assumptions for the reservoirs, wells, subsea equipment, and facility over the remaining field life. Production is limited by facility water handling capacity. As the reservoirs mature, the water-cut continues to rise while oil rate declines until the end of facility life. Forecast annual production varies due to planned maintenance shutdowns, shipyard maintenance of the FPSO and unplanned downtime (e.g. during cyclones in summer months). While oil rates reduce over time, the operation of the facility is predicted to remain steady, with fuel consumption, and corresponding emissions from production predicted to also remain fairly consistent year to year.

3.10 Well control

The subsea wells are remotely controlled from the central control room (CCR) located on the Pyrenees Venture FPSO, via the subsea umbilical system. Well control will involve intermittent discharges of small amounts of water-based hydraulic fluid (<3 m³ per year) when actuating the various tree valves on the twenty-one subsea production wells. This will be the only planned operational discharge to the marine environment from the offshore infrastructure.

3.11 Pyrenees Facility

Production fluids from the Pyrenees reservoirs are produced to the Pyrenees Venture FPSO, a double hulled standalone FPSO (Figure 3-3). Crude oil, formation water and gas are produced with aid of gas lift to the Pyrenees Venture FPSO where they are processed to stabilise the crude oil and store before being offloaded to offtake tankers direct for export.

The Pyrenees Venture FPSO is a conventional double hulled converted Suezmax trading tanker with an overall length of 274 m and a cargo storage capacity of approximately 881,000 barrels of oil. The original basis of design of the process was 96,000 bbl/day of oil, 150,000 bbl/day of water and 60 MMSCFD gas through the compression facilities.

Crude oil is exported directly from the Pyrenees Venture FPSO onto trading tankers. There were 53 offtakes from the Pyrenees Venture FPSO in the first year of production. In 2023, the cargo offtakes had reduced to approximately eight offtakes per year. Each offtake takes approximately 24 hours to complete.

The Pyrenees Venture FPSO design rates are detailed in Table 3-5.



Figure 3-3: Pyrenees Venture FPSO

The Pyrenees Venture FPSO design rates are detailed in Table 3-5.

Table 3-5: Pyrenees Facility design rates

Fluid/stream	Units	Design rate
Oil	STB/D	96,000
Total PW	STB/D	150,000
PW injection	STB/D	≥135,000
Gas compression	MMSCFD	60
Gas lift	MMSCFD	55
Gas injection	MMSCFD	55
Gas injection backflow	MMSCFD	15

3.11.1 Facility design conditions

The Pyrenees Venture FPSO has been designed in accordance with American Bureau of Shipping (ABS) Classification requirements. All FPSO facilities including subsea components, risers, process facilities, and the floater hull and mooring system have been designed to continue operation uninterrupted in a 1-in-100-year non-cyclonic storm and a 1-in-10-year cyclonic storm when disconnected. The subsea mooring system (spider buoy) is designed to a 1-in-1,000-year non-cyclonic storm. Table 3-6 shows the metocean design conditions for the Pyrenees Venture FPSO.

Table 3-6: Pyrenees Facility metocean design conditions

Parameter	Non-cyclonic (year)			Cyclonic (year)		
	1	10	100	10	100	10,000
Wind						
Gust speed (3 sec) (m/s)	19.9	22.2	23.9	57	75.1	81.8
Mean speed (1 min) (m/s)	17.6	19.7	21.2	46	52.3	68
Mean speed (10 min) (m/s)	15.9	17.8	19.1	42	47.4	61.7
Mean speed (60 min) (m/s)	14.7	16.4	17.6	-	43.69	56.87
Waves						
Significant wave height (m)	4.7	5.7	6.6	9.5	12.6	17.3
Peak spectral period (s)	15.6	16.1	16.3	12.9	14.2	16.5
Spectral mean wave period (s)	12.2	13.1	13.4	10.5	11.2	12.9
Average zero up-crossing period	10.5	11.3	11.6	9.9	10.5	12.1
Maximum single wave height (m)	8.6	9.9	10.4	16.3	21.3	30.1
Period of maximum wave (s)	14	15.1	15.4	11.4	12.9	14.8

3.11.2 Turret and mooring

The Pyrenees Venture FPSO is equipped with a disconnectable turret mooring (DTM) and its own propulsion system to allow evasion of tropical cyclones and to enable sail-away for maintenance.

The Pyrenees Venture FPSO is moored to the seafloor using an internal DTM system located near the bow of the vessel. All main flanges and valves of the turret are located above deck. The DTM system provides for passive weather vaning via bearings incorporated into the turret structure, which allows the vessel to freely pivot according to prevailing winds, waves, and currents. Well fluids flow from the flowlines to the production swivels located in the turret and onto the Pyrenees Venture FPSO for processing. The general arrangement of the turret mooring system is shown in Figure 3-4.

The mooring system consists of a turret mooring spider buoy (see Figure 3-5) which is anchored to the seabed via nine anchor legs comprising chain and wire rope (Table 3-7). The lower end of each anchor leg is connected to a drag anchor embedded into the seabed. The spider buoy and associated turret structure are integrated into structure of the hull.

The design of the spider buoy has ensured there is sufficient redundancy, which includes:

- The spider buoy can lose one of its anchor legs without loss of station.
- A single compartment of the spider buoy can be flooded without losing buoyancy.

Disconnection of the flexible risers is achieved by manual intervention of the mechanical connections on the structure and can generally be completed within 12 hours including time for blowdown. After disconnection, the spider buoy submerges to a depth of approximately 30 m. Once disconnected, the Pyrenees Venture FPSO steams away using its own propulsion as a fully classed vessel. Reconnection to the DTM is the opposite of a disconnect. There are no waste streams when restarting suspended wells and subsea infrastructure.

Tropical cyclone sail-away activities have a minimum lead time of over 21 hours with the Pyrenees Venture FPSO typically staying within Australian waters for the duration of a cyclonic event.

Dry dock activities occur on a scheduled basis, informed by maintenance and operational requirements, with a sail away to, and anchorage in, Singapore for extended periods of time to complete major works. All re-entries into Australian waters are planned in accordance with border security requirements, biosecurity requirements and Woodside procedures including Woodside's invasive marine species (IMS) risk assessment process.

Table 3-7: Pyrenees Venture FPSO mooring system

#	Anchor leg component	Diameter (mm)	Type	Deployed length (m) *
1	Top chain	100	Studless	10 + 5
2	Spiral strand wire	63	Sheathed	225
3	Bottom chain	85	Studless	633
4	Drag anchor	-	StevShark	

* Total chain length: 5,787 m; Total wire length: 2,025 m.

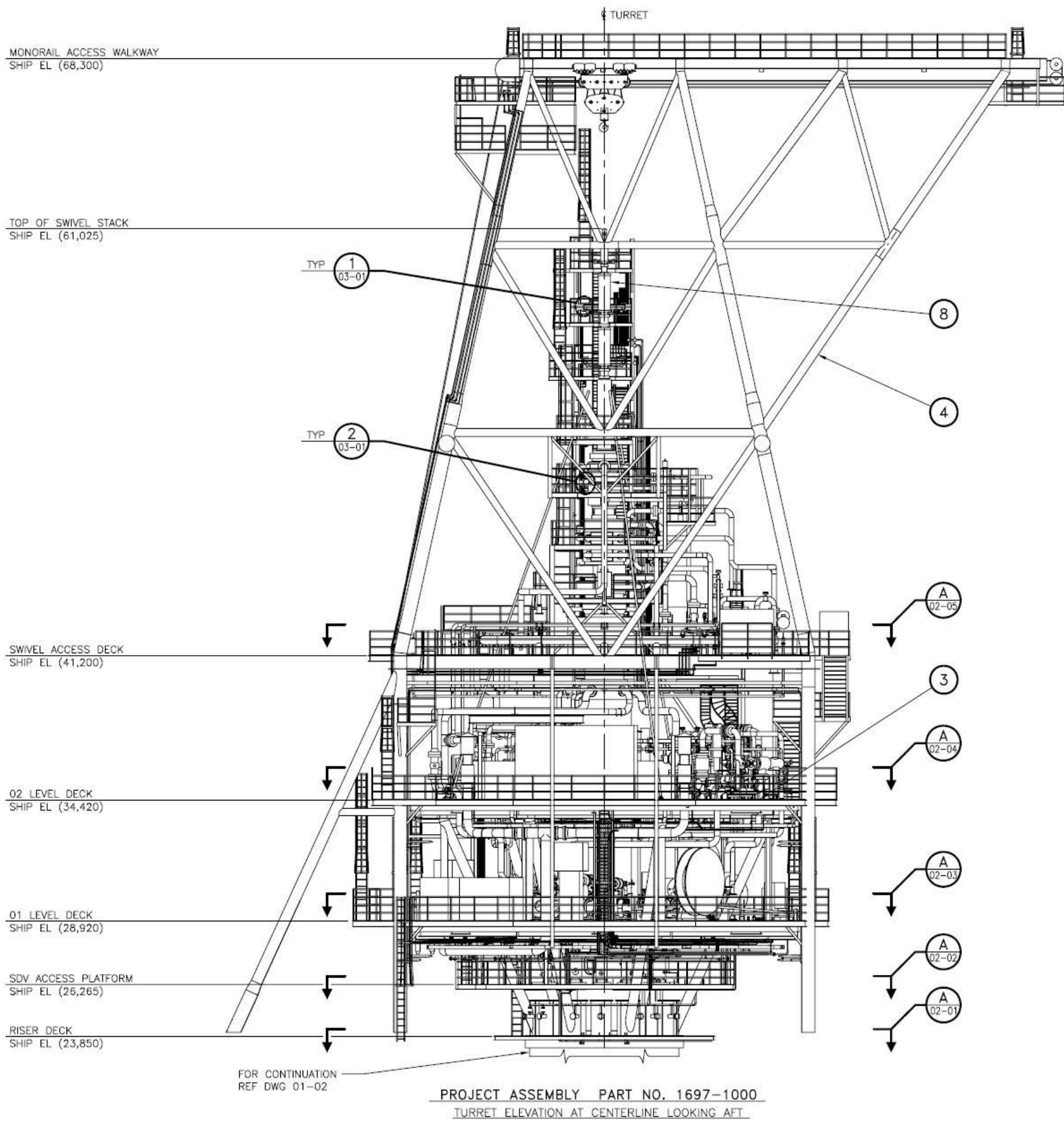


Figure 3-4: Pyrenees Venture FPSO disconnectable internal turret (upper section)

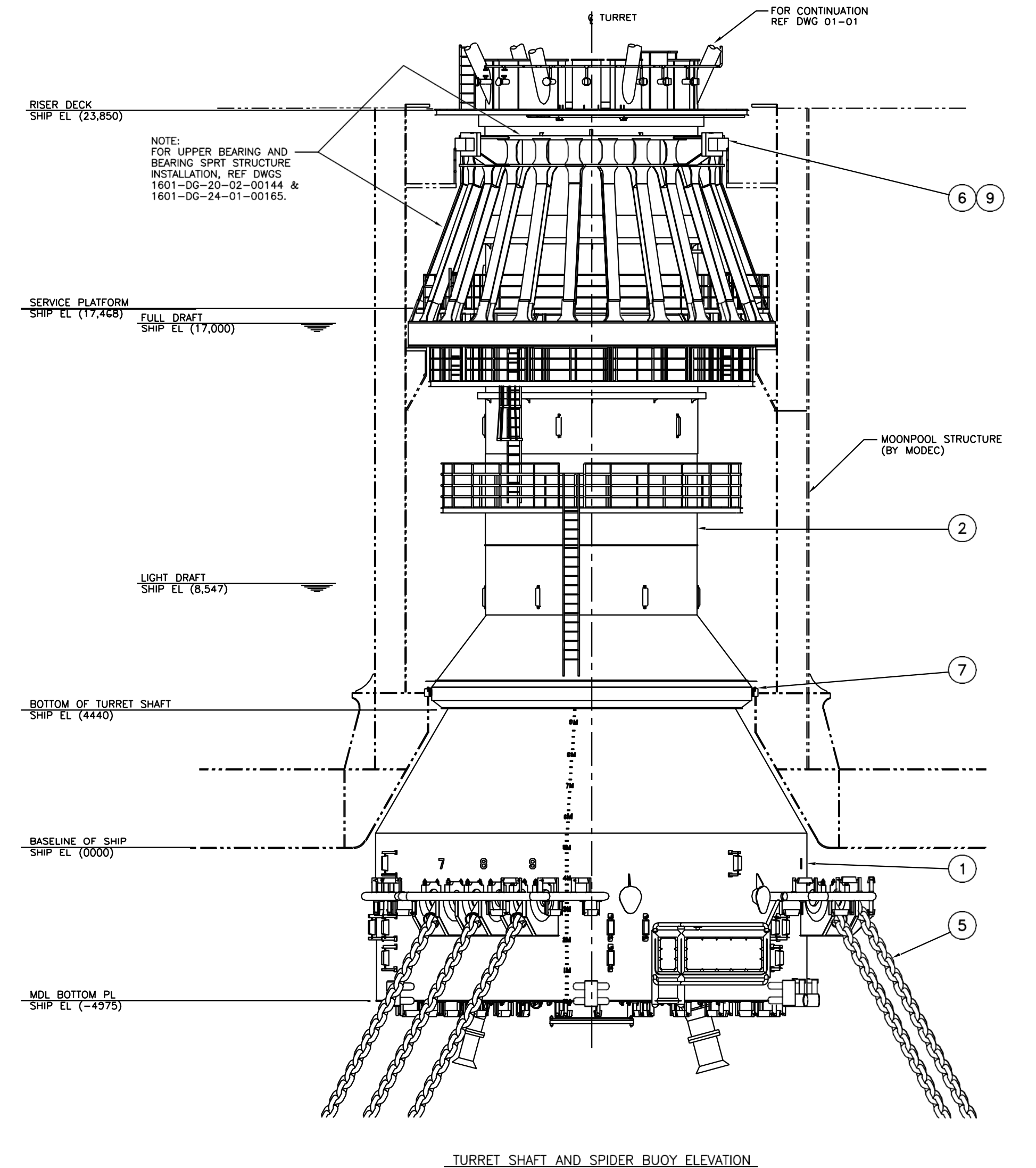


Figure 3-5: Pyrenees Venture FPSO lower turret and spider buoy

3.11.3 Hull

The Pyrenees Venture FPSO hull has been designed to Classification Society requirements and can store up to 881,000 bbls of 19 API crude oil, with an export parcel size of up to 550,000 bbls.

Figure 3-6 and Figure 3-7 show the Pyrenees Venture FPSO hull layout. The cargo holding area comprises six pairs of cargo tanks. There are also two slops tanks (port and starboard) and six pairs of wing and double bottom/sided dedicated ballast tanks, which are dedicated ballast tanks. These tanks provide a 3 m buffer at the vessel side and a 2.5 m buffer on the hull bottom to prevent cargo tank penetration damage. Diesel fuel tanks located in the hull are also provided with a cofferdam between the tank and the vessel's side shell.

The underwater hull and appendages are protected by an automatically controlled impressed current cathodic protection system. The propeller shaft and rudder post are grounded to the hull. Aluminium anodes are fitted in the sea chest on the rudder and propeller aperture and moonpool. Sacrificial zinc anodes (bolting type) have been provided for the water ballast tanks and slop tanks.

In compliance with International Maritime Organization's (IMO) AFS Convention and *Protection of the Sea (Harmful Anti-fouling Systems) Act 2006*, the Pyrenees Venture FPSO hull is coated in a tributyltin-free, self-polishing antifouling coating (AFC), which was reapplied in May 2024 during drydock. The expected coating lifetime being five years, the AFC is typically reapplied during dry docking every five years. The coating is designed to prevent marine growth buildup on the hull.

3.11.4 Topsides layout

The topsides equipment on the Pyrenees Venture FPSO is located on a number of pre-assembled modules:

- an internal riser mooring near the bow
- accommodation at the stern containing temporary refuge, which can accommodate the maximum persons on board (60 personnel); the key areas of the temporary refuge are the emergency control centre/CCR and the helicopter administration room/muster area
- gas compression equipment towards the bow (portside)
- lower pressure process equipment (i.e. hydrocarbon separation) in the middle of the Pyrenees Venture FPSO (i.e. midships)
- utilities and PW facilities between the accommodation and process area
- main power generation located towards the stern starboard side
- chemical laydown area located on a dedicated bunded deck above the chemical injection skids next to the crane
- laydown areas adjacent to the crane
- helideck
- inclined flare tower.

The FPSO layout is shown in Figure 3-6, Figure 3-7 and Figure 3-8.

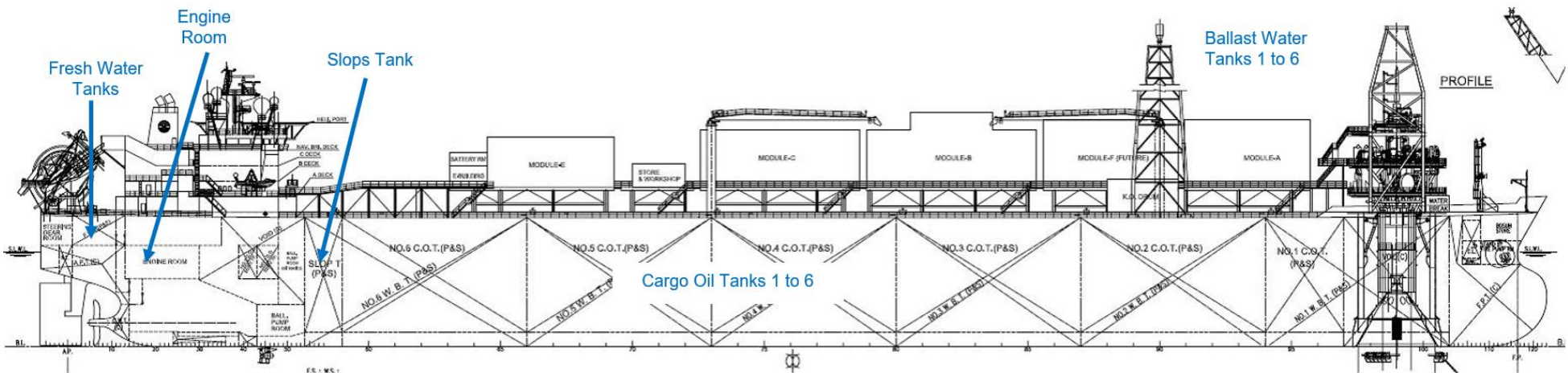


Figure 3-6: Pyrenees Venture FPSO hull layout – profile

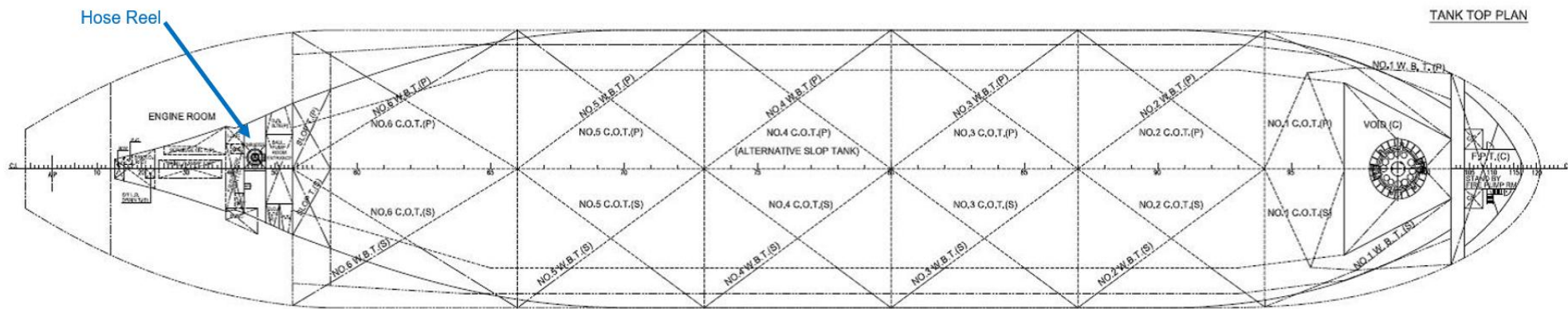


Figure 3-7: Pyrenees Venture FPSO hull layout – tank top plan

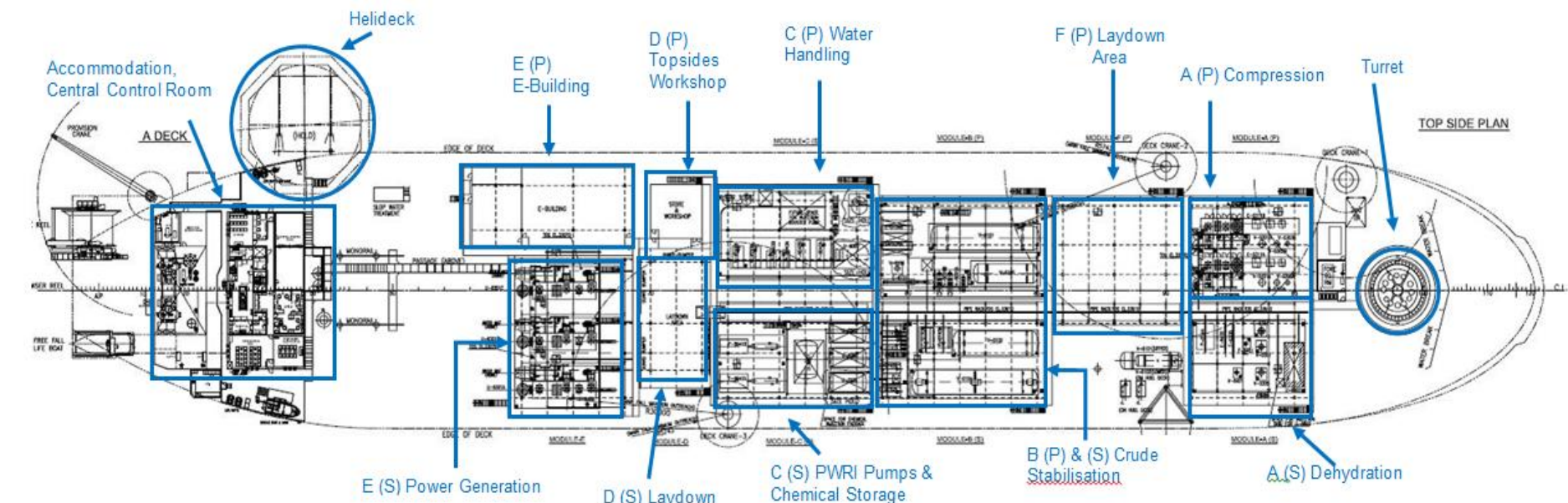


Figure 3-8: Pyrenees Venture FPSO layout – modules

3.12 Modes of operation

As described in Section 3.11 the Pyrenees Venture FPSO has the ability to move off station. The Pyrenees Venture FPSO operates in two modes: connected mode and disconnected mode; these are described below.

3.12.1 Connected mode

In connected mode and upon commencement of reconnection activity after cyclone disconnects, the Pyrenees Venture FPSO is subject to the jurisdiction of the NOPSEMA and operates in accordance with this EP. Routine activities during connected mode include:

- operation of the subsea production system
- operation of topsides processing and utilities
- operation of marine utilities
- crude oil storage and offloading operations
- helicopter and supply vessel operations
- CCR operations
- general services, including accommodation
- IMMR activities, including those undertaken subsea
- shutdown/disconnect and reconnect/start-up for tropical cyclone response.

3.12.2 Disconnected mode

In disconnected mode, i.e. when the Pyrenees Venture FPSO has completed the disconnection activity and sailed away from the 500 m PSZ, the Pyrenees Venture FPSO falls under the jurisdiction of the Australian Maritime Safety Authority (AMSA) while in Australian waters. The Australian flagged Pyrenees Venture FPSO (registered in Fremantle) is also subject to Class requirements.

During potential periods of extended Pyrenees Venture FPSO sail-away (e.g. when the Pyrenees Venture FPSO is disconnected and sailed away to the shipyard) normal well monitoring from the FPSO is unavailable. During these periods wells are shut-in and managed in accordance with the accepted Pyrenees WOMP. Woodside can demonstrate alignment with current industry good practice with respect to managing well integrity, through confirming that the well barriers are verified, wells are left in a safe state, and the risk of loss of containment is reduced to ALARP.

During disconnected mode some subsea IMMR activities may occur within the Operational Area.

3.12.3 Transition from connected to disconnected mode

The regulatory body governing the operation of the vessel transitions from NOPSEMA to AMSA when the facility transitions from production to ship mode. As part of the disconnection process, Woodside communicate to the recognised organisation (Classification Society), requesting the required certificates in accordance with the process described in the disconnect procedure.

3.12.4 Floating production, storage and offtake facility (FPSO) personnel levels

The total overnight persons-on-board capacity for the Pyrenees Venture FPSO is 60, however actual personnel levels may fluctuate below this. Personnel levels are influenced by a number of activities, including but not limited to:

- crew change
- campaign maintenance
- inspections/audits
- planned facility shutdowns.

3.13 Production process

3.13.1 Production system overview

The Pyrenees Venture FPSO topsides processing system receives well fluids (crude oil, reservoir or PW and associated natural gas) from the production wells, processes it in three stages to separate the crude oil, stores it in the Pyrenees Venture FPSO cargo tanks then offloads cargo to offtake tankers direct for export. Processed gas is used as the source of gas for fuel, gas lift, and minor amounts may be flared for process safety. Excess processed gas is reinjected into the Macedon Field via the Macedon-6 bi-directional well. The well is bi-directional, as gas for fuel can also be sourced from the Macedon-6 well.

The overall process flow diagram schematic is shown in Figure 3-9 (the blue lines represent water, the green lines represent gas and the black lines represent oil).

The Pyrenees topsides facilities include the following process functions:

- production and test separation
- oil stabilisation and dewatering
- PW treatment system
- water injection facilities
- gas de-hydration, compression and reinjection
- fuel gas generation and treatment
- flaring/blowdown facilities.

The processing system is designed to meet crude specifications of 0.5% basic sediment and water and Reid vapour pressure of less than 10 psia, as well as achieving all other environmental discharge limits, as established in the Pyrenees Basis of Design (BHP Petroleum, 2007).

Further details of the processing system are detailed in the sections below.

3.13.2 Liquid processing overview

The crude oil processing system receives the well production fluids via the production manifold and the test manifold. The production manifold sends fluids to the three-phase first stage separator and the test manifold routes fluids to the test separator. Alternatively, the test manifold can route fluids from the subsea test flowlines into the first stage separator (refer to Figure 3-9).

Gas from the first stage and test separation vessels is combined and sent to the suction of the high-pressure compression system. Oil or stable emulsions are sent to the crude heating system and any separated PW is routed to either the PW treatment system (refer Section 3.13.5) or closed drains (refer Section 3.13.6) (if the rate is below the minimum turndown to the PW treatment system).

The crude heating (interstage) system consists of a crude/crude exchanger that recovers heat from the hot crude streams originating from the electrostatic coalescer. The warmed crude/emulsion stream from the cross exchanger is then heated by low-pressure saturated steam to approximately 95°C in the crude heaters.

The hot crude/emulsion stream is then flashed in the three-phase, horizontal second stage separator. The main purpose of the second stage separator is to remove dissolved gases and supply low pressure (LP) fuel gas before the crude is sent to the electrostatic coalescer for dehydration. Hot PW can be recycled back to the inlet of the first stage separator to aid separation.

The hot crude/emulsion from the second stage separator is routed to a two-phase horizontal third stage separator (located above an electrostatic coalescer) with flash gas routed to the LP flare (refer Section 3.13.3). The liquid from the third stage separator is sent to the electrostatic coalescer.

The electrostatic coalescer further separates the oil and water using electric fields to facilitate the coalescence and separation of water droplets from the bulk oil phase. The separated oil stream is then sent to the oil storage system via the crude/crude exchanger. The PW can be recycled to the inlet of the first stage separator.

PW from the first stage separator and test separator is routed to the de-oiling hydrocyclones. Oil from the de-oiling hydrocyclones is routed to the recovered oil collection drum. Water from the de-oiling hydrocyclones is routed to the dissolved gas flotation unit (DGF). The DGF separates any remaining gas from the PW, where the gas is routed to the LP flare for safe disposal.

The PW is then either routed to the booster and injection pumps for re-injection in the water injection wells, routed to the slops tanks or is discharged overboard to the marine environment (refer Section 3.13.5 for further details on the PW treatment system).

Final crude rundown cooling to 45°C occurs after the crude/crude cross exchanger in the rundown cooler by exchanging heat with seawater.

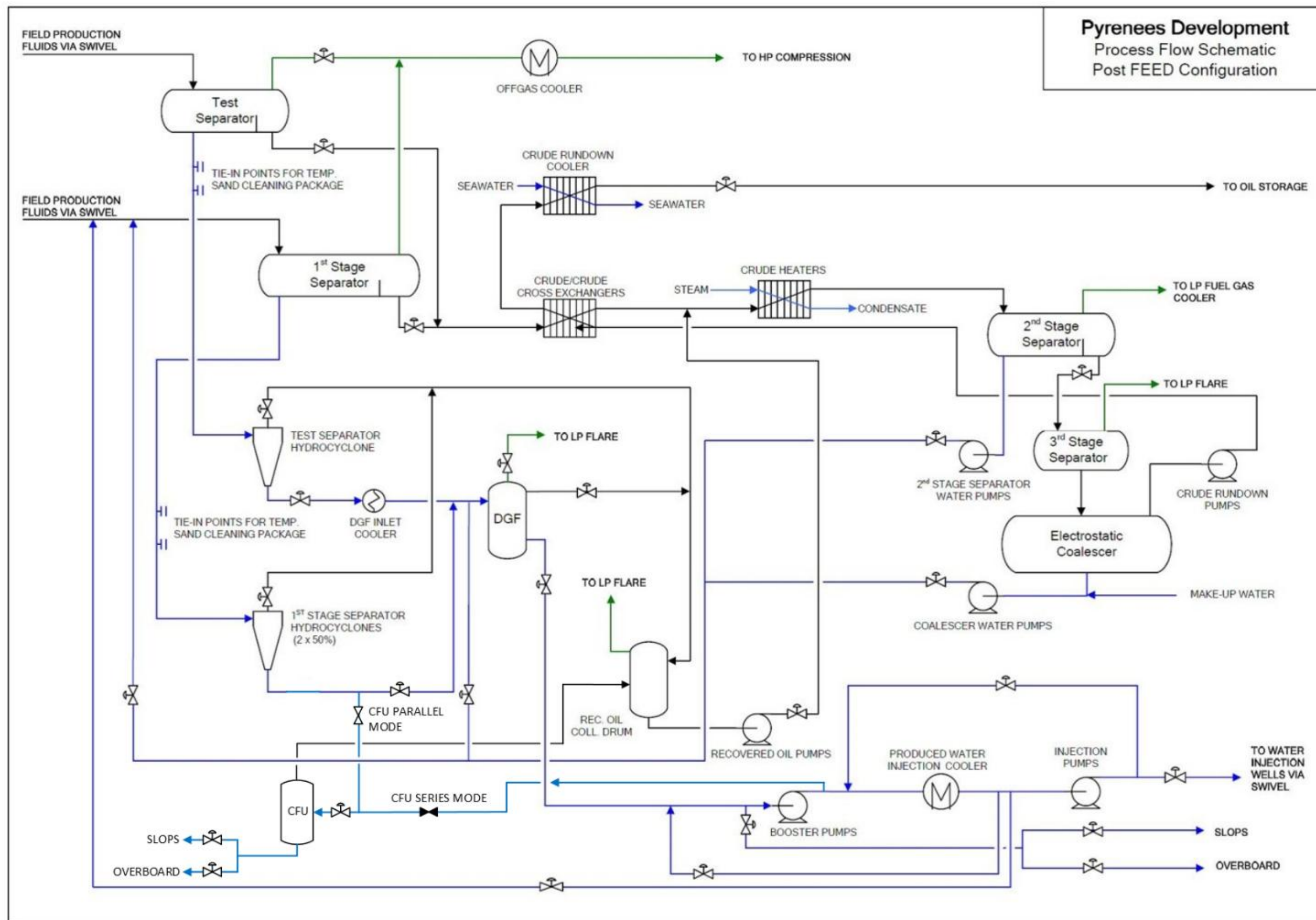


Figure 3-9: Pyrenees Facility process flow schematic

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 23

Page 56 of 530

Uncontrolled when printed. Refer to electronic version for most up to date information.

The compact floatation unit (CFU), DGF and slops water is discharged out of a DN350 pipe and the cooling water is discharged through the larger DN700 pipe. The pipes are located in close proximity (<2 m distant) on the port side, at C module, approximately 120 m from the rear/stern of the Pyrenees Venture FPSO. The discharges depth ranges from 3 m to 11 m, depending on ships draft with discharge pipe configuration shown in Table 3-8.

Table 3-8: Discharge pipe configuration

Component	Details	
	PW and slops pipes	Cooling water pipes
Pipe diameter	350 mm (DN350)	700 mm (DN700)
Pipe orientation	Outlet perpendicular to ship hull	Outlet perpendicular to ship hull
Discharge depth	Discharge depth – depends on ship's draft (i.e. ships height in water – depends on cargo onboard): 11 m (max cargo onboard) 7 m ('average' cargo onboard) 3 m (min cargo onboard)	Discharge depth – depends on ship's draft (i.e. ships height in water – depends on cargo onboard): 11 m (max cargo onboard) 7 m ('average' cargo onboard) 3 m (min cargo onboard)
Distance between pipes	1.363 m	

During routine operation, all gas from the first stage and test separators is compressed, dehydrated and used for either fuel gas, gas lift and the surplus injected into the Macedon reservoir via the Macedon-6 bi-directional well. An integrated gas compression and treatment system is provided. Artificial lift is provided via gas lift and surplus formation gas is disposed of via injection into the Macedon reservoir. The gas lift/injection specification is determined by corrosion and hydrate management requirements. Gas flows to subsea are measured using differential pressure (V-cone) instruments. Process gas measurement uses Vortex type flow meters, and ultrasonic gas flow meters are used for flare gas. No direct flow measurement is present on the Macedon reservoir but as all other gas producers and consumers on Pyrenees are metered, flow to Macedon can be determined via mass balance.

The gas compression equipment comprises two Solar 50% gas turbines direct driven three stage centrifugal compressors (with dual fuel capacity). Each of the compressors has a capacity of 30 MMSCFD (or total capacity of 60 MMSCFD). The offgas from the test and first stage separators commingle upstream of the offgas cooler, controlling the suction temperature to the gas compression trains to 45°C to ensure efficient compression. Gas compression is split into two trains, with each train capable of independent isolation. This design arrangement enables improved availability and reliability, with a reduction in unplanned process upsets due to additional redundancy. The fundamental process for the centrifugal compression is outlined in Figure 3-10 (with green indicating gas flow). The compressors are equipped with tandem dry gas seals for shaft sealing. Primary seal leakage gas consisting primarily of natural gas is collected to the LP flare system for safe disposal. Process gas flows are typically measured using Vortex-type flow meters.

Gas entering a compression train is scrubbed to remove any entrained liquid prior to compression to approximately 25 barg in the first stage of the centrifugal compressor. This gas is then cooled to approximately 40°C by a closed loop tempered water cooling system (refer Section 3.13.7.1) prior to entering a gas scrubber to remove and liquid dropout as a result of the compression and cooling process. The cool dry gas is then compressed to approximately 67 barg in the second stage of compression. The gas is again cooled to approximately 40°C prior to commingling with the cool second stage discharges of the other compression trains.

Liquids knocked out in the first stage suction scrubbers are returned back to the oil processing train upstream of the crude heater. Liquids knocked out in the second stage suction scrubbers are returned to the inlet of the first stage separator. Liquids recovered in the third stage suction scrubbers are returned to the gas dehydration glycol regeneration unit.

Gas from the dehydration system is used to feed the facility high pressure (HP) fuel gas system. This gas is used as the normal fuel source for the gas turbine generators and gas turbine driven compressors. Shortfalls in facility gas balance for fuel and gas lift are made up by producing gas from the Macedon field using the bi-directional gas injection/production well.

The co-mingled second stage compressor discharge flows through a filter coalescer vessel designed to remove any condensed liquids. To provide dry fuel gas, lift gas, and gas for re-injection, the water saturated gas is then passed through a glycol (triethylene glycol (TEG)) dehydration column to remove water to achieve a dewpoint of approximately minus 4°C. The HP fuel gas is taken from the discharge of the glycol dehydration column prior to the dehydrated gas splitting into each train of third stage compression.

The gas entering each third stage train is scrubbed to remove any glycol carryover and other liquids prior to compression to approximately 170 barg in the third stage of compression. The gas is then cooled prior to commingling with the cool third stage discharge of the other compression train.

The HP gas is then distributed between the gas lift and gas re-injection headers. The gas lift rate is set by the required gas lift flows to each of the production wells. The balance of the HP gas is directed to the gas re-injection header for injection into the Macedon reservoir. This situation only occurs when there is surplus gas being produced, i.e. during the early years as the reservoir gas caps are blown down.

When gas from the wells is insufficient to meet the HP fuel gas demand, the gas from the Macedon well is imported by reverse flowing through the injection swivel. This gas is directed to the Macedon scrubber where liquids from the flowline and well are knocked out before the gas is heated enroute to its tie-in upstream of the glycol contactor filter coalescer, where it combines with the second stage compressor discharge gas. This imported Macedon gas is used for HP fuel gas during start-ups and for process pressurisation following blowdown. The design allows for injected gas to be back-flowed to the facility for start-up and to meet fuel gas consumption requirements.

Injection into and back-flow of gas from the Macedon well is continuously adjusted to meet the fuel gas demand of the facility.

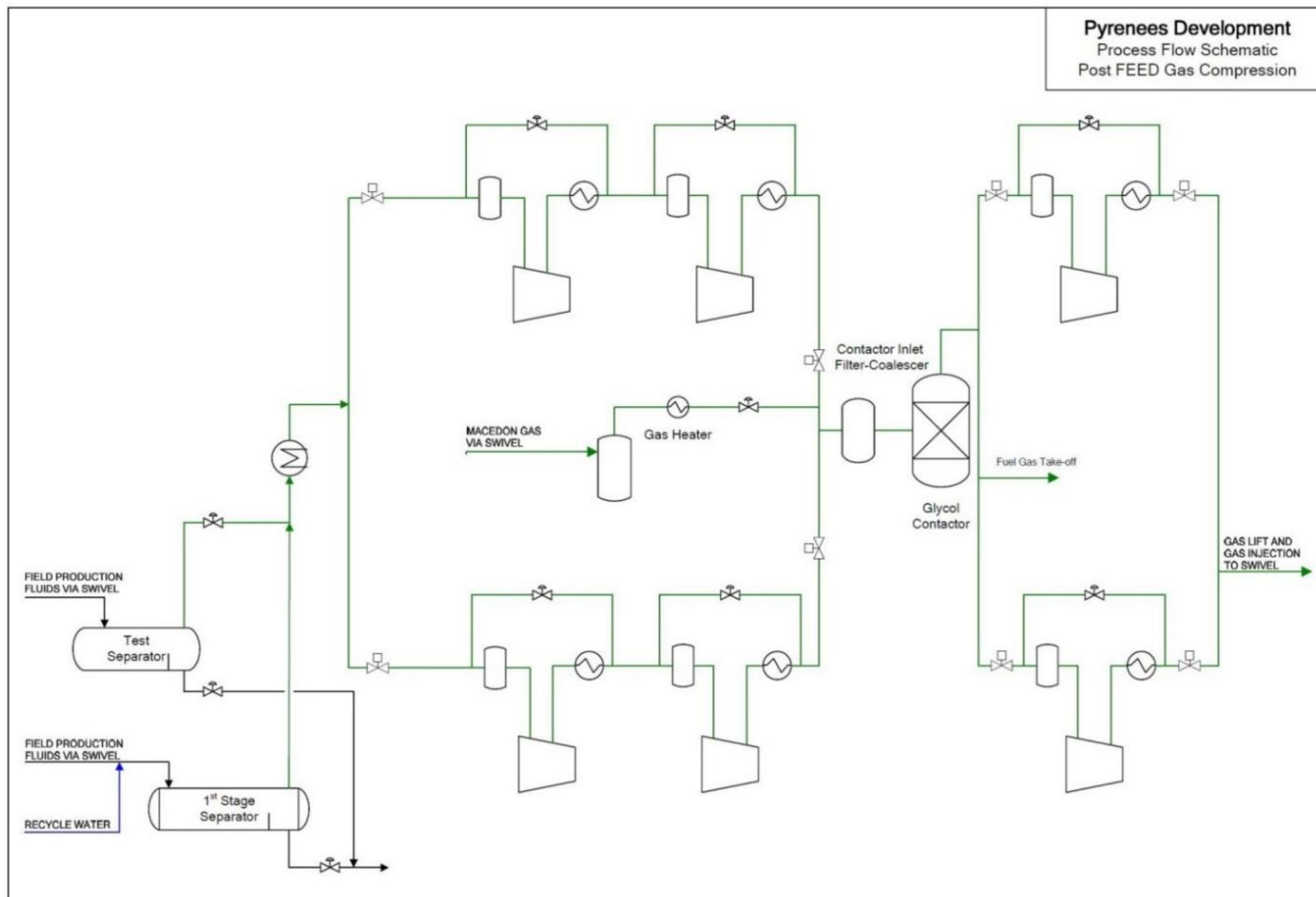


Figure 3-10: Pyrenees Facility gas processing schematic

3.13.3 Flare system

The flare system consists of two completely independent HP and LP systems to safely dispose of hydrocarbons.

Their main purposes are to safely discharge gas streams during an emergency depressurisation, or when the compression systems are unavailable. However, there are some process streams which continuously pass gas to the flare. Other streams intermittently flow to the flare, such as during process upsets, maintenance activities and when storage vessels are depressurised.

The Pyrenees Facility system was designed to facilitate minimal flaring with exceptions during process upset or maintenance. Although reinjection of surplus gas will avoid significant flaring of gas, a small quantity of gas will be continuously burning at the flare tip for safety reasons and there will be short periods that lead to more significant flaring of gas, such as:

- transient operations such as start-up and process upset conditions (i.e. failure of the gas injection compressor)
- emergency flaring caused by emergency depressurisation (blowdown) of equipment
- emergency relief flows to prevent overpressure (i.e. gas blowby or blocked outlet scenarios)
- manual depressurisation of topsides equipment
- venting of topsides equipment for maintenance.

During normal operations, only emissions from low pressure process sources are collected and routed to the LP flare system. Relieving/blowdown devices are provided throughout the process plant to protect the equipment against overpressure during an emergency situation.

The flare system is equipped with liquid knock-out (KO) drums to remove liquids, with self-draining flare headers to the drums. All flare headers have a continuous purge of LP fuel gas to maintain positive pressure and prevent the ingress of air. Nitrogen is used as an alternative purging medium in instances when LP fuel gas is not available.

Vapours from the LP and HP flare scrubbers are purged to the LP and HP flare tips mounted on the flare tower and integrated with the pilot. The LP and HP flares are designed smokeless, however, under some scenarios uncombusted hydrocarbons may generate dark smoke. All vapours discharged via the flare system are metered using continuous ultrasonic flow meters with pressure and temperature instruments. Liquids recovered from the flare KO drum(s) are routed back to the process plant upstream of the crude heater or to the slops tank.

The flare system was supplied by John Zinc. The LP flare system is a utility flare tip (EEF-U-16) with two pilots (model EEP-W2). The HP flare system is a Hydra-14B high pressure flare tip with two pilots (model EEP-W2). Flare pilots are kept on fuel gas backed up by propane bottles, and an ignition panel is provided to ignite pilot burners using spark ignition method. There is an infrared flame monitor located on the starboard side module B stairway pointed at the flare tip zone to detect if the flare flame or pilot goes out. A flame out activates a process control system alarm in the control room, which the operator will investigate.

The flare tower is at the bow of the FPSO and has a total height of 90 m above sea level.

3.13.3.1 Normal operations

During normal operations, a relatively small quantity of gas must be continuously flared for safety, associated with purge and pilot of the flare system and disposal of waste gas streams which are not recovered to the process.

The continuous flows to the LP flare include:

- flare pilot
- LP flare header and storage tank purges
- dry gas seals
- glycol regeneration process, including still column overheads
- DGF or CFU injected gas for PW treatment (when in use, refer to Section 3.13.5).

The continuous flows to the HP flare include:

- flare pilot
- HP flare header purges.

Leakage past pressure safety valves, pressure control valves, manual valves and blowdown valves may also result in a continuous flow; however, this is usually minor.

3.13.3.2 Intermittent process upsets and activities

During planned process upsets and activities, the process control valves on the main process equipment are designed to open to relieve excess pressure to flare. Sources include emergency shutdown testing, compressor outage, strainer changeout and cyclone disconnect interruptions.

3.13.3.3 Emergency blowdown

The topsides equipment and piping are divided into isolatable sections, each with a dedicated fail open actuated blowdown valve, which allow blowdown of the entire facility inventory. During an emergency shutdown, each section is separately depressurised to the HP or LP flare.

3.13.3.4 Transient operations

During process upsets, the pressure control valves on the main process equipment are designed to open to relieve excess pressure to the HP flare.

During start-up operations, the pressure control valves on the main process equipment can open to manage pressure.

3.13.4 Vent system

While it is preferable to flare rather than vent, there are some instances where venting may be required. An atmospheric vent system is installed to collect vapours from not normally venting vessels, with discharge to a vent outlet on a dedicated mast riser.

The following tanks on the Pyrenees Venture FPSO are vented:

- tanks storing non-volatile fluids such as lube oil and non-volatile chemicals, with minimal expected vapour vented during incidental tank filling only
- cargo tank blanket inert gas (boiler flue gas) during tank level change, which is vented through the breather valve on the inert gas main header, routed to vent at the flare tower (see Section 3.13.11)
- slops tank, which is vented via the breather valve on the vent header, with the outlet located on the flare tower.

Blanket gas from chemical storage vessels which contain potentially flammable and/or hazardous products (e.g. methanol) are not vented and are instead routed to the LP flare system.

3.13.5 Production water treatment and injection system

PW is brought to the surface from the reservoir and put through the PW treatment system. The PW treatment system is designed to separate oil and water and polish PW that is brought to the surface with reservoir fluid. The PW treatment system uses several techniques to stabilise the fluid and separate oil in water (OIW) prior to returning any oil sent back to the process. Polished PW can then be reinjected back into the reservoir, diverted to the slops tank or discharged overboard.

The PW system is designed to process a maximum of 23,848 m³/day (150,000 bbl/day). The primary separation system involves gas/oil water separator units and hydrocyclone separation before dividing into two systems – DGF and CFU (Figure 3-11).

The DGF is used for additional oil removal with the reject oily water from the hydrocyclones sent to the process for re-processing and polished water sent to the reinjection skid, diverted to the slops tanks or discharged overboard. The DGF has been in place since the Pyrenees Venture FPSO begun production in 2009 and in 2024, the design and performance of the DGF was reviewed and improvements to the design were completed to improve PW quality.

The CFU was installed in July 2018 in order to allow for improved PFW treatment and increased water handling. The CFU incorporates residual flotation gas in a secondary separation stage to increase OIW removal efficiency while fully degassing the clean water outlet. It is used for additional re-processing after the hydrocyclones or DGF processes and sent to the slops tanks or discharged overboard. A tie-in spool was also modified into the process design to allow for the parallel operations of the DGF and CFU to increase the capabilities and further improve PW quality.

After exiting the DGF and/or CFU, there are three available routes for PFW disposal, which are:

- reinjection into the reservoirs (target >90% reinjection)
- discharge to the marine environment via:
- routine operations – continuous side stream 1,589 m³/day (10,000 bbl/day) discharged overboard from the CFU (not currently utilised) (Figure 3-12)
- non-routine overboard discharge – during upset conditions, 9,062 m³/day (57,000 bbl/day) discharged overboard from the DGF and CFU (or temporary polishing skid) (Figure 3-13); will not exceed the total annual discharge overboard volume and for no longer than 10 consecutive days per event
- contingency overboard discharge – if the water injection system becomes unavailable prior to repairs of the system being complete (currently estimated by end August 2026), possible overboard discharge at 9,062 m³/day (57,000 bbl/day) until repairs can be completed; for environmental assessment purposes it has been assumed that the discharge could occur for up to 300 days
- automatic routing to the slops water tanks or fully coated cargo tank (alternate slops tank) for additional settlement and treatment, which occurs when reinjection or overboard discharge criteria cannot be achieved or when the OIW analysers after the DGF or CFU fail.

The FPSO has two dedicated slops tanks – the port slops tank (or the ‘dirty’ slop tank) and the starboard slops tank (or ‘clean’ slops tank). Oil recovered from the slops tank is routed to the cargo storage tanks. The port slops tank receives both PFW during upset of the reinjection or treatment system, and contaminated slop water from a variety of sources. Liquids in the port slops tank undergo a settling process, with less dense oily liquids floating on top of cleaner slop water at the bottom.

A balance pipe connects the port slop tank to the starboard slop tank. The inlet of the balance pipe in the port slop tank is located 3 m from the bottom of the tank and the outlet of the balance pipe is located 11 m above the bottom of the starboard slop tank. Relatively clean separated slop water from the bottom of the port slop tank flows through this arrangement to the starboard slop tank.

Once further settling occurs in the starboard slop tank, the discharge/return valve arrangement permits either a return of the water to the port (dirty) slop tank, to the topsides process (upstream of the reinjection pumps) for disposal via reinjection, or the CFU for further treatment to be overboard discharged as part of the PW stream.

Discharge overboard is via the PW stream from a caisson from the side of the ship at 3 m below the surface (discharge depth with an empty facility load, 11 m at full load; the exact depth varies with ballast/loading).

If overboard discharge criteria cannot be achieved a temporary polishing skid may be installed to facilitate overboard discharge during contingency conditions.

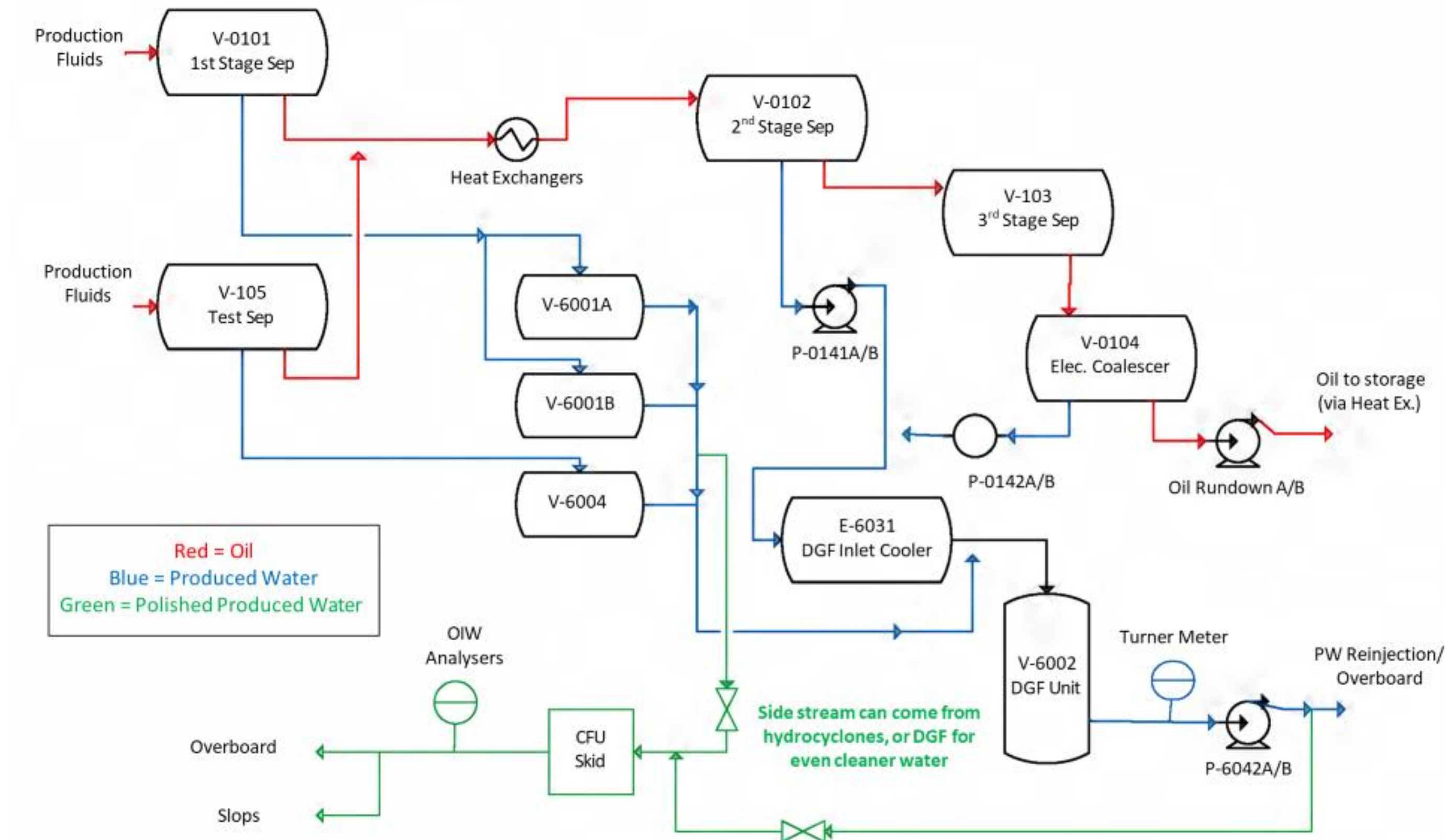


Figure 3-11: Pyrenees Facility produced water system schematic

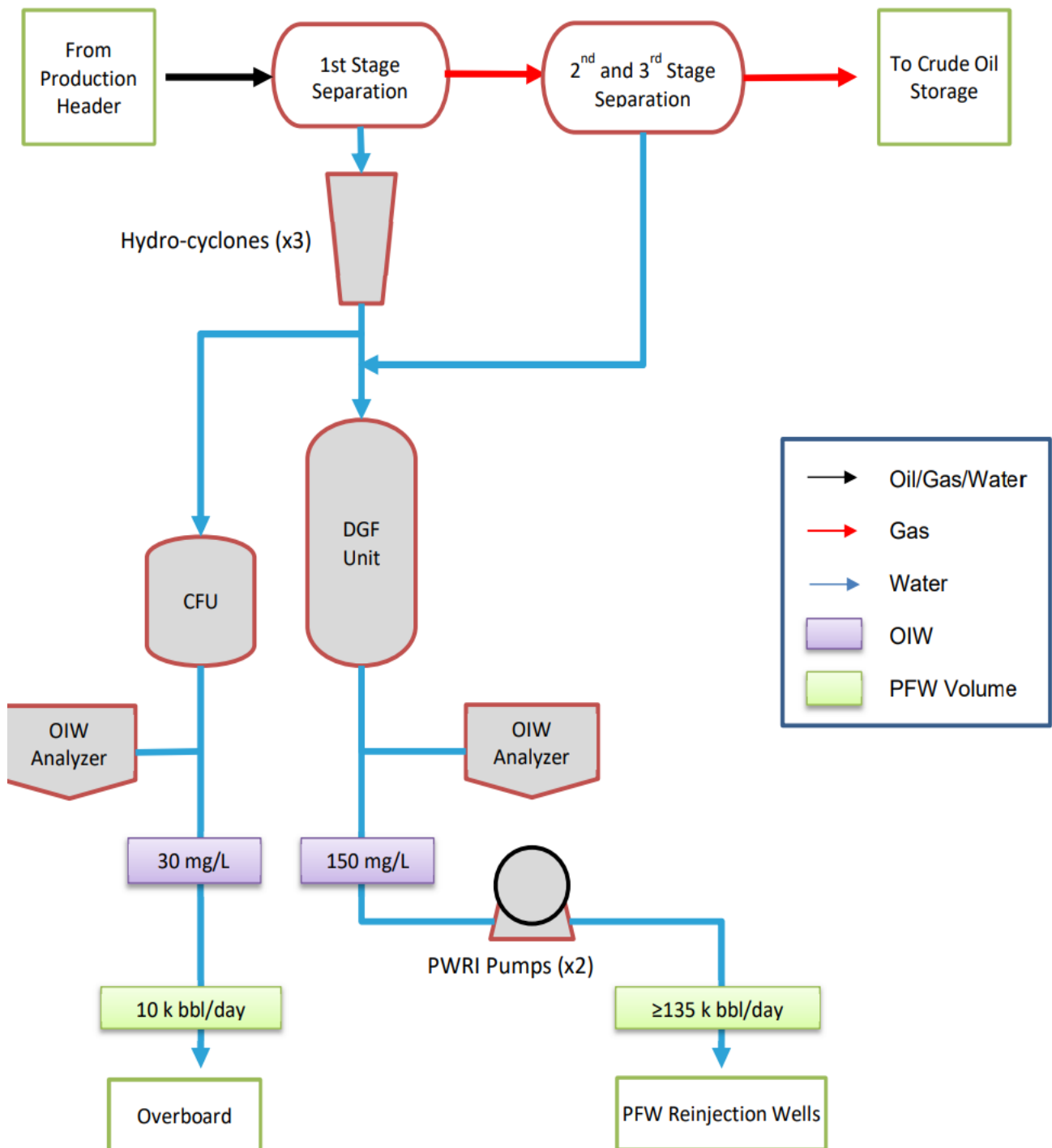


Figure 3-12: Pyrenees Facility routine operations schematic

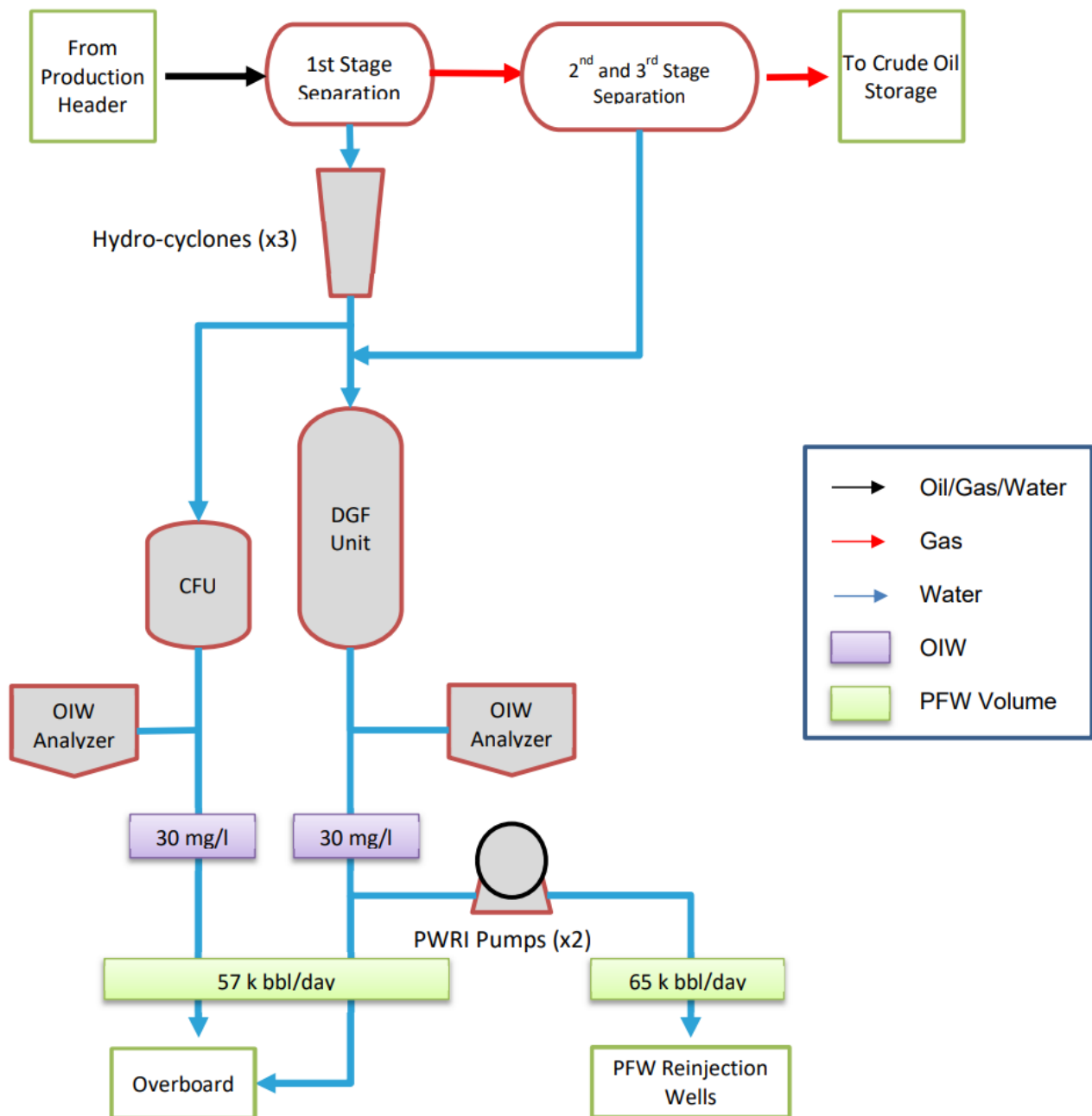


Figure 3-13: Pyrenees Facility upset conditions schematic

All water exiting the DGF or CFU passes through OIW measurement analysers prior to reinjection into the reservoir, diversion to the slops tank or discharge overboard. Both meters are *International Convention for Prevention of Pollution from Ships 1973* (MARPOL) certified. As an automated fail safe, if any of the meters fail to confirm OIW readings in the overboard discharge stream, inconsistent readings are observed between the CCR and the OIW analysers and/or the verification tests, or the OIW concentrations do not meet the specifications, then PW is diverted to the slops tank, alternative slops tank (Cargo Oil Tank No 4) or other specified storage tank.

In the event OIW analyser readings become unstable or vary substantially over a 24-hour period, manual sampling at six-hour intervals of OIW are completed to verify OIW specifications are being achieved while PW is being directed overboard. The manual sampling occurs until online analysers are brought back into calibration and the results are recorded and readings are entered in the daily Pyrenees Facility Production Report and the Enterprise Upstream database as per the Monitoring and Management of Produced Water and Slops Discharge Procedure.

3.13.6 Drainage system

3.13.6.1 Closed drains

All pressure vessels and equipment in hydrocarbon service or containing hazardous fluids on the Pyrenees Venture FPSO are provided with a hard-piped drain connection to the closed drains system. The system is generally used to drain liquids from process vessels and equipment prior to maintenance and therefore these sources are normally isolated and only drained after depressurisation. The closed drain system also collects liquids during normal operations.

The collection vessel for the closed drain system is the LP flare KO drum (Section 3.13). Liquids collecting in the LP flare KO drum are normally pumped back to the process upstream of the crude heater; however, it is also possible to route the liquids to the slops system in case the process train is unavailable or it is not desirable to return the fluid back to the process (i.e. well clean up fluids). The route to the slop systems is isolated and only used under controlled circumstances.

3.13.6.2 Open drains

The Pyrenees Venture FPSO open drain system consists of the following sub-systems:

- hazardous open drains, which collect liquids from open drain sumps, tundishes and equipment drip trays in areas classified as hazardous
- non-hazardous open drains, which collect liquids from open drain sumps, tundishes and equipment drip trays in areas classified as non-hazardous
- chemical drains from bunded containment areas, which allow collection or disposal of chemicals from the chemical injection facilities.

These are discussed in further detail below.

3.13.6.2.1 Hazardous and non-hazardous open drains

The open drain systems are designed to handle rainwater, deluge/firewater, wash down water and any spillage of liquids which may also contain solids from process plant deck areas and equipment drip trays. The hazardous and non-hazardous areas on the Pyrenees Venture FPSO have separate open drains collection systems. The hazardous drains in the hydrocarbon modules have dedicated routing to the slops tank, separate from non-hazardous open drains. The hazardous and non-hazardous open drain headers can be routed either to the port slops tank or the four-port slops tank.

Liquid spills are contained and recovered by routing the open drains system to a series of segregated sumps located in the floors of areas with plated decks to either hazardous or non-hazardous open drains, depending on the area classification. These sumps have their outlet protected by a strainer screen to prevent solids from entering the system and creating blockages. The overflow system for these sumps is designed to minimise the risk of overboard discharge of hydrocarbons (in the case of a spill). Liquid captured in these sumps then flows to a common header, either hazardous or non-hazardous depending on area classification, via gravity to the slops tank system. Water is decanted in the slops system before being treated in the water treatment package (refer Section 3.13.5). Recovered oil is routed to the cargo storage tanks.

A liquid seal is provided at the slop tank inlet connection to prevent inert gas migration from slops tank to plant areas via the open drains system.

All equipment that is likely to have small and/or unpredictable leaks of hydrocarbons or chemicals (such as pump seals) have dedicated drip trays.

Excess flows experienced during deluge or heavy rainfall is managed using two offtakes from the drain sumps – one at a low level routed to the open drains system, the other at a higher level routed to the ships deck. The overflow offtake is designed such that it minimises overflow of hydrocarbon.

3.13.6.2.2 Chemical storage area open drains

The open drains in the chemical storage areas have the following design features to minimise the risk of release of any spillage to the marine environment.

The chemical storage area consists of two levels – a chemical loading/unloading/handling area at the top level and the chemical storage and injection area, beneath the chemical handling area. Both areas are individually bunded and have drain sumps with segregation according to chemical compatibility.

All chemicals collected on the open drain sump at the top level are piped to the appropriate drain sumps provided in the chemical storage and injection area.

Level switches are provided for the chemical storage and injection area drain sumps that alarm on high level.

The collected drainage from the chemical storage and injection area drain sumps are pumped to a transportable waste collection tote tank in the event of a spill, or to the open drain system during normal operations.

3.13.7 Seawater system

Seawater is pumped onboard the Pyrenees Venture FPSO for use as cooling water and to produce potable and fresh/distilled water. These systems are discussed further below.

3.13.7.1 Cooling water system

The purpose of the Pyrenees Venture FPSO seawater systems is to provide process and heating, ventilation and air conditioning cooling. Seawater is delivered to the system from the ship's hull via three seawater lift pumps.

The process cooling water system consists of two sub-systems:

- the tempered water cooling system, which is a closed loop system that provides cooling to process heat exchangers and topsides machinery
- the seawater cooling system, which provides cooling to the closed loop process cooling water and to process coolers.

The tempered water cooling system is a closed loop system which provides cooling for the HP compressors, PW injection pumps, LP fuel gas cooler, steam condensate cooler and sample coolers. There is provision for chemical injection into the system as required (pH buffer, oxygen scavenger, scale/corrosion inhibitor and biocide).

The seawater cooling system is a single pass system used primarily to cool the seawater/tempered water cross exchanger, offgas cooler, crude rundown cooler and PW injection cooler. The seawater is filtered at the intake through the seawater coarse filters to prevent intake of a sudden influx of microalgae, seaweed, etc. After use in the cooling water system, the heated seawater is discharged overboard to discharge specifications.

Marine growth is prevented from growing in the seawater cooling system by a sodium hypochlorite copper chlorine system. Antifoam is also injected at the inlet of the seawater deaeration tower to control seawater foaming to reduce deaeration.

The daily seawater cooling flow rate expected during operations is 33,600 to 38,400 m³/day. The design return temperature is 46.3°C at the maximum expected surface ambient seawater temperature of 31°C. Cooling water flow rates and temperature are recorded in PI Process Book as per the below specifications (Table 3-9).

Table 3-9: Cooling water discharge specifications

Cooling water	Unit	Quantity
Cooling water discharge temperature max. ¹	°C	50
Daily flow rate	m ³ /day	48,000

¹ Limit to comply with environmental requirements and to reduce scaling potential in seawater cooling system.

3.13.7.2 Fresh water system

Fresh and distilled water is produced on the facility by a 'fresh water' generator, which uses heat from the auxiliary boiler steam system or main engine jacket cooling water to evaporate seawater in a vacuum. The vacuum is applied to the separator vessel by the brine ejector and seawater from the ejector pump is used to condense the vapour. The distillate water pump removes the PW from the condenser and delivers it to either the distilled or potable water tanks.

The fresh water generator consists of heat exchangers, separator shell and condenser, water ejector, the ejector pump, steam injector, distillate pump, salinometer, solenoid valve, deflector, mesh separator, water meter and feed water chemical injection unit.

The fresh water is stored in tanks and distributed by hydrophore units with electric driven pumps. Facilities for transfer of potable water from supply boats to the Pyrenees Facility freshwater storage tanks are also provided.

Fresh water is used for accommodation potable and hot water services, machinery space drinking fountains, topside utilities and safety showers and eye wash stations.

3.13.8 Cargo tanks

The Pyrenees Venture FPSO is divided into sealed compartments by a series of longitudinal and transverse bulkheads. There are six port cargo tanks and six starboard. The Pyrenees Venture FPSO features a double skinned hull (sides and bottom) around the cargo tanks.

The cargo tanks are blanketed with inert gas and maintained at a slight positive pressure, up to 14 kPa(g).

Stabilised crude oil is offloaded to tankers (up to 125,000 dead weight tonnage) moored at the stern of the Pyrenees Venture FPSO in a tandem configuration, using a floating hose (260 m by 16-inch) connected from the stern of the Pyrenees Venture FPSO to the mid-ship manifold of the receiving tanker. A mooring hawser connects the two vessels during crude transfer operations, with the distance between the two vessels approximately 60 m, maintained by an operations support vessel providing static tow on the offtake tanker.

The cargo system is designed to offload 87,430 m³ (550,000 bbl) in less than 30 hours. Cargo pumping is via electric submerged deep well pumps located in the cargo tanks. The dual carcass floating hose is stored on a hose-reel at the stern of the Pyrenees Facility while not in use. This reduces the likelihood of damage to the hose during handling or impact by vessels (and their propellers) and subsequent oil releases and enables the Pyrenees Venture FPSO to steam away from an incoming cyclone at a higher speed (as the floating hose is not being towed behind).

The offloading system includes an emergency shut off valve at the Pyrenees Venture FPSO stern and an emergency disconnection system. Both are capable of being remotely operated from the CCR. The floating hose has a quick release as part of the hose reel for emergency release. The design of the unit is such that minimal oil is lost in the event of a release (approximately 40 L).

3.13.9 Ballast system

The Pyrenees Venture FPSO ballasting system comprises six pairs of wing double bottom ballast tanks and the fore peak tank which surround the cargo tanks, providing a double hull arrangement. The ballast tanks and ballast system maintain stability of the Pyrenees Venture FPSO and manage stress conditions during cargo loading and discharge operations. Control of the ballast system is operated in the CCR, in conjunction with the 'Shipmanager' system, which monitors the load forces (e.g. shear forces and bending moments) and to ensure they remain within the acceptable stability envelopes.

The Pyrenees Venture FPSO ballast system complies with ABS Classification Rules and IMO (*Ballast Water Management Convention*) requirements. The system consists of:

- ballast tanks and pumps
- hydraulic power unit and supply lines
- ballast valves and piping
- vessel monitoring system/ballast panel (and associated software).

Ballast tanks and cargo tanks are segregated to minimise potential contamination with oil.

Two single stage centrifugal ballast pumps are provided, which take water from the ballast tanks or the sea (via a sea chest) via the ballast ringmain. The port and starboard ballast systems are cross connected via ringmain piping, allowing pumping from tanks on one side to the other and de-ballasting of any through either pump. Backup power is provided for the loading computer and cargo control panel via the emergency switchboard (i.e. emergency generator).

3.13.10 Offloading system and offtake tanker mooring

The Pyrenees Venture FPSO facility has a tandem offloading system, providing handling facilities to non-dedicated tankers of up to Suezmax (150,000 T) size, in accordance with Oil Companies International Marine Forum (OCIMF) requirements.

Before gaining Woodside's acceptance for offloading from the Pyrenees Venture FPSO facility, export tankers are assessed for their performance, quality (historic performance or incidents, documentation, systems and procedures) and operational compatibility with the facility.

Once accepted for offloading, the tanker must comply with requirements under the Pyrenees Venture Berthing & Terminal Handbook, which contains rules, information and operations guidelines. The manual also describes the operations and approach to the PSZ and cautionary zone, and the rules that apply in each area. Approach to the facility is approved by the facility OIM, then occurs under supervision of a Woodside pilot in accordance with the IMO and International Maritime Pilots Association Guidelines.

While the offtake tanker is making its approach to the Pyrenees Venture FPSO facility, a support vessel runs the messenger rope to the stern-mounted mooring hawser, then assists in the berthing operation as directed by the pilot, including transferring the hose to the offtake tanker connection. After the hose is connected, line-up for cargo operations begins under the direction of the pilot, with communications continuously maintained between the offtake tanker, the Pyrenees FPSO facility and facility support vessel. Separation between the FPSO and the offtake tanker is maintained by the support vessel on static tow at the stern of the offtake tanker, which also controls movement of the tanker.

Crude oil is offloaded to the offtake tanker via a 16-inch diameter, 279 m long floating offtake hose. It comprises a heavily reinforced material in sections approximately 11.8 m long, with flanged and bolted connections between sections. This allows each section to be independently tested and replaced if necessary. A double dry-break coupling is fitted approximately 30 m from the offtake rail end of the hose, which will release at a predetermined tension. Minor oil spillage may occur into drip trays on the tankers when the hoses are separated; spillage is minimised by closing the valves in each half of the parted dry-break coupling and all oil is retained within the drip trays.

Offloading operations from the Pyrenees Venture FPSO facility take place as required, based on production rates. Offtakes are currently every six weeks and will decline in frequency as production rates drop over time. Trading tankers have an oil storage capacity of up to 120,000 m³; a full loading operation is expected to take up to 30 hours. Initial loading rates are approximately 700 m³/hr; however, once safety and override checks are satisfactory, the rate is increased to suit offtake tanker requirements, to a maximum loading rate of 4000 m³/hour.

Offloading to tankers is monitored by the Pyrenees Venture FPSO facility's approved stress and stability program, which continuously calculates the stresses in the hull, based on measured liquid levels and densities within the tanks, and provides alarms if hull stresses exceed the allowable envelope.

The offtake hose is stored on a stern-mounted hose reel when not in use. This reduces the likelihood of hose damage during handling or impact by vessel.

3.13.11 Inert gas system

The inert gas system ensures the atmosphere in the Pyrenees Venture FPSO cargo storage and slop tanks is maintained at a positive pressure to prevent the formation of flammable mixtures during crude oil washing and purging operations and cargo offloading.

The system on the Pyrenees Venture FPSO is a standard inert gas system which uses boiler flue gas as the inert gas, sourced from the exhaust gas duct of the auxiliary boilers. The inert gas has an oxygen content of below 5% by volume. The inert gas plant is located in the engine room. The plant consists of a scrubber and demister, two inert gas blowers, a deck water seal unit, pressure/vacuum breaker, ducting and necessary fittings. The inert gas system is a standalone system with on-line monitoring of the inert gas oxygen content via a control panel in the CCR. On-line monitoring of the inert gas oxygen content is provided at the CCR. At high oxygen levels (above 5%), the deck supply valve will close automatically and the inert gas is vented to the atmosphere. Continuous monitoring of the inert gas pressure is also provided in the CCR and the bridge.

3.13.12 Greenhouse gas emissions

The sources of greenhouse gas (GHG) emissions associated with the Petroleum Activity are shown in Table 3-10. GHG sources that are not part of the Pyrenees Facility (e.g. transport, refining of oil) are included for completeness. In the context of this EP, the emissions are classified as direct and indirect emissions.

Table 3-10: Direct and indirect greenhouse gas (GHG) emissions sources associated with Pyrenees production

Emission type	Source	Location	Jurisdiction	Process
Direct	Pyrenees Facility process	Offshore	Commonwealth	GHG emissions associated with fuel, flares, fugitives and process vents
Indirect	Support operations	Offshore	Commonwealth	GHG emissions associated with engines and fugitives on vessels and helicopters
	Transport	Transit	Subject to consumer location	GHG emissions associated with transport of products to market
	Refining of oil Regassification of gas Distribution and combustion of oil and gas by third-party user	Market	Subject to consumer location	GHG emissions associated with combustion of products as part of power generation and other energy products within the final market

3.14 Emergency blowdown, shutdown and safeguarding

3.14.1 Emergency blowdown

All hydrocarbon inventories on the Pyrenees Venture FPSO are provided with facilities to enable them to be depressurised via the blowdown system. The blowdown system comprises:

- fail open blowdown valves on various process equipment
- control instrumentation, power supply and instrument air.

The status of the blowdown valves is indicated in the CCR. Blowdown can be initiated manually from the CCR or automatically via the fire and gas system.

The blowdown design philosophy is based on blowdown of vessels from maximum operating pressure to 6.9 barg or 50% of maximum operating pressure within 15 minutes, whichever is lesser.

The actual blowdown has been conservatively based on blowdown from high pressure trips instead of normal operating pressure. This means blowdown from the normal operating pressure can be achieved in less than 15 minutes in most cases.

3.14.2 Shutdown and safeguarding control systems

The Pyrenees Venture FPSO has shutdown and safeguarding systems to automatically sense any abnormal process condition, alert the operator at the operator interface in the CCR and execute actions (such as isolate process inventories, initiate blowdown and shutdown equipment).

The process control system continuously monitors and controls the Pyrenees Venture FPSO process and utility systems, including equipment packages and associated facilities. Subsea wells are controlled by a standalone master control station. The process control system is the main data collection point for the information management (e.g. including hydrocarbon accounting for emission reporting).

The alarm monitoring system comprises the cargo and ballast control/stress systems, tanker loading facilities, certain utilities and services (e.g. diesel, potable water) and electrical power management for the emergency/essential generators. The system is also monitored and controlled in the CCR.

The subsea control system includes all electronic components and facilities for full control and monitoring of the subsea facilities and the associated hydraulic power on the vessel deck. The complete subsea installation is normally operated from the subsea master control station remote terminal in the CCR.

3.14.3 Emergency shutdown valves

Emergency shutdown valves (ESDVs) are provided throughout the topsides hydrocarbon processing plant and in the fuel gas and methanol systems. The ESDVs are designed and installed in accordance with ABS Classification and API standards.

The valves are pneumatically actuated, except the riser ESDVs which are hydraulically operated. The ESDVs are fail safe design, sprung to close with hydraulic/pneumatic actuation to open (i.e. they fail closed on loss of air/hydraulics or control signal). The valve position is indicated locally and in the CCR.

The topsides ESDVs are fire rated and are protected against long duration riser fires. Emergency shutdown of all isolation valves including the riser ESDVs will occur automatically upon confirmed fire or gas detection or as a result of process upset. ESDVs can also be initiated manually from the CCR and various pushbuttons around the Pyrenees Venture FPSO.

3.15 Utility systems

3.15.1 Power generation

The Pyrenees Facility power generation is derived from the following systems:

- topside main generators – three dual-fuel turbine generators each providing 7,000 kW
- essential (hull) generators – three sets of diesel generators each providing 950 kW
- emergency generator – one set diesel generator producing 300 kW
- uninterruptible power supply (UPS).

The primary source of electrical power for the Pyrenees Facility is three (dual fuel gas/diesel) turbine-driven power generators (located topside) and associated distribution system. Production equipment is predominantly electric motor driven, except the gas compressors which, like the main power generators, are also gas turbine driven. The power generation system is designed to be used in both production and ship's navigation requirements.

The Pyrenees Facility power systems are discussed in further detail below.

3.15.1.1 Topside power generation

Topside power generation is provided to meet all power requirements for the Pyrenees Facility when connected to the spider buoy and in normal production and offloading mode. This includes all process, utility and marine electrical loads. The topside main generators are also used for connection and reconnection of the Pyrenees Venture FPSO with the turret if it is necessary to use the thruster during the connection process.

The three gas turbine generator sets are 7,000 kW gas/diesel Solar Taurus 70 units. Two are usually in operation at any time with one remaining on standby. This design arrangement enables improved availability and reliability for sparing and redundancy. The generators normally run on fuel gas, with diesel fuel used only during periods when gas is unavailable, such as black start, turret connection and disconnection.

The main generator fuel system is capable of automatically switching from fuel gas to diesel fuel without interruption to the power supply, initiated either by a specific shutdown signal or upon loss of fuel gas pressure. Alternatively, the system may be manually switched from diesel to fuel gas without interruption to the power supply. Dual fuel capability improves the availability and reliability of power, helping to prevent facility shutdown or blowdowns and in turn reducing additional flaring from such unplanned events.

Fuel gas consumption of the gas turbine generators is not metered individually, however, this can be indirectly determined from power generated (kW), which is metered on each turbine.

3.15.1.2 Essential (hull) generators

Diesel generators in the shipside engine room are retained as a standby for marine utility and emergency systems and as the main generator for ship navigation. They additionally allow 'black start' of the main gas turbine generator. The system consists of three diesel engine driven generators of 950 kW each.

In the event of topside generation failure, the shipside generators will supply power to shipside utilities and topside emergency power. Start of shipside main generators (essential generators) is controlled both manually and locally. Power supply change over from topside gas turbine generators to shipside generator is performed with non-blackout power changeover (a short period parallel running of shipside and topside generators for power transfer with sync-check will be catered for as part of the system design).

3.15.1.3 Emergency generators

A diesel engine driven emergency generator is installed within a dedicated machinery room located on the hull's main deck, along with its dedicated diesel day tank (with 18 hours running time). The generator is 300 kW.

The emergency generator satisfies all regulation and class requirements and has sufficient installed capacity to satisfy all hull and topside systems emergency loads, including:

- emergency and helideck lighting
- UPS and battery systems
- fire and gas detection and prevention
- all emergency response telecommunication systems
- navigation systems and aids
- emergency equipment
- control power for subsea system
- UPS for the control systems.

3.15.1.4 Uninterruptable power supplies

Standalone UPSs provide secure power to the Pyrenees Venture FPSO critical loads for control, communication, safe shutdown and evacuation of the facility. Critical loads are defined as those required to maintain safe condition, equipment, or prevent loss inventory.

The systems are 100% redundant with exception of existing marine battery supplies and are configured to provide automatic and uninterruptible back-up on loss of normal, essential and emergency power. All systems have sufficient storage battery capacity to provide power in accordance with Classification Society requirements for marine and offshore installations. Redundant systems may be supplied from both emergency and normal power supply.

These power supplies also provide clean power services to sensitive instrumentation and telecommunication equipment where close tolerance voltage and frequency conditions are needed and supply disturbances minimised.

The critical loads have minimum battery autonomy periods. The critical loads include:

- process control and safety systems
- fuel gas system and supporting process control system equipment
- navigation aid systems
- electrical system
- topside unit control panel and mechanical packages
- critical control and alarm equipment.

Battery autonomy periods are also provided for telecoms essential loads, telecoms normal loads and instrumentation.

3.15.2 Diesel fuel system

Marine diesel oil is used for all sail-aways, initial mobilisation voyage and initial start-up and emergency operations, or to cover periods of disruption to production activities in the absence of fuel gas.

Diesel is required as the primary fuel for the following systems:

- secondary fuel for the topside power generation and marine steam boilers
- FPSO main engine
- essential generators and the emergency generator
- firewater pumps (main and standby)
- lifeboat.

Diesel fuel is bunkered onboard the facility from offshore support vessels (OSVs) and stored in the diesel storage tanks (approximately 2,935 m³ capacity) located within the aft hull of the Pyrenees Venture FPSO. Approximately 10 L per month of biocide/corrosion inhibitor is added on an as-required basis once diesel is stored onboard the Pyrenees Venture FPSO.

3.15.3 Hydraulic and lube oil

The hydraulic power units provide clean hydraulic fluids at various flow rates and pressures to accommodate the requirements of:

- mooring/topsides:
 - well subsurface safety valves and Xmas tree valves
 - riser and fluid transfer path ESDVs
 - topsides hydraulic ESDVs
 - ancillary topsides and hull systems hydraulically activated valves
 - mooring buoy structural connector
- marine:
 - cargo, ballast and slops tank valves
 - hull systems mooring and hawser winches.

Hydraulic fluid for the subsea control system is water based to minimise flammable hazards. Hydraulic fluid is replenished via tote tanks. The lube oil is used both for the power generation turbines and for major topsides rotating equipment. A lube oil purification system is also provided.

Sealed bulk bins are used to transfer large quantities of lube oil and chemicals offshore. The bins are located topsides at an elevated position with a gravity distribution piping to main oil consuming packages and the oil storage tanks.

3.15.4 Instrument and plant air system

Instrument air and utility air generation systems are provided via 'control' air compressor/drier/receiver (three by 50%). This supplies the instrument air header and nitrogen generation system. The instrument air users include:

- instruments and pneumatic tools
- gas turbine power generators
- process packages.

The 'start' air compressor/receiver supplies the utility air header.

3.15.5 Nitrogen system

The Pyrenees Venture FPSO process plant is equipped with a 155 m³/hr LP nitrogen generation system (i.e. compressed air powered membrane system), with a nitrogen purity of 97.5%. The nitrogen system is used to purge equipment and piping and is used as back up to the flare header purge gas.

3.15.6 Steam systems

Six-barg steam is supplied from the ship's hull for use as the heating medium for crude heater after depressurising and desuperheating to 1.0 barg saturated steam. Steam is also supplied to the topsides utility stations from desuperheater downstream. Steam condensate exiting the crude heaters is collected in the condensate collection drum and returned under gravity to the hull via steam condensate cooler.

3.15.7 Sewage and putrescible wastes

There are two sewage treatment units installed on the Pyrenees Venture FPSO. Sewage treatment unit U_4151 is the primary unit, sized for a maximum of 60 persons on board. This unit was installed during the Pyrenees Venture FPSO conversion. A second unit, sewage treatment unit U-4152, is sized for 32 persons on board and pre-existed the Pyrenees Venture FPSO conversion. This unit is retained as a standby (emergency) unit.

Both units are combined treatment systems manufactured by EVAC. Each unit comprises an integrated vacuum generator and a biological sewage treatment system. The system uses an aerobic process whereby activated sludge converts organic substances in waste water to carbon dioxide and water without danger of methane gas production. The units are fully automatic in normal operation and require low maintenance.

Both units are designed to meet the requirements of the *International Convention for Prevention of Pollution from Ships 1973*, as modified by the *Protocol of 1978* (referred to as MARPOL 73/78) Annex IV and the US Coast Guard Code of Federal Regulations Title 33 part 159, which specifies the discharge effluent quality as follows:

- biochemical oxygen demand <50 ppm
- suspended solids 100 ppm
- faecal coliforms <250 pcs/100 ml most probably number.

Sewage and greywater is discharged from the units to the marine environment in accordance with Annex IV of MARPOL 73/78.

Putrescible waste (food waste) is macerated to a size of <25 mm before discharge to the marine environment.

3.15.8 Cranes and material handling

The Pyrenees Venture FPSO is equipped with material handling equipment to enable maintenance of all major equipment on the Pyrenees Venture FPSO, efficient movement of materials around the Pyrenees Venture FPSO, and transfer of materials to and from OSVs.

3.15.9 Passing vessel detection

Management controls are in place to reduce the likelihood of unplanned interactions between the Pyrenees Venture FPSO and other vessels. These include features that allow detection of vessels approaching or passing near the Pyrenees Venture FPSO:

- facility personnel to observe approaching vessels and raise the alarm
- automatic identification system (AIS)
- automatic radar plotting aid
- closed circuit television.

Communication systems to notify other vessels of the Pyrenees Venture FPSO's location include:

- navigation aids, bridge wing searchlights and lights/deck illumination
- fog signal in restricted visibility

- radio communications.

The turret also has a radar reflector and navigation lights, which are activated when the Pyrenees Venture FPSO is disconnected.

3.15.10 Facility lighting

Artificial lighting on the Pyrenees Venture FPSO and support vessels at night is at levels required for safe conduct of operations and for various navigational sea and air safety requirements.

The main criterion for lighting design is to ensure that there is effective lighting to maintain a safe working area, and safe movement around the vessel to enable start-up, inspection and testing. All access ways to emergency pathways are also required to have sufficient light for successful evacuation from the ship in the event of an incident. As a result, the illumination levels on the Pyrenees Venture FPSO have been selected to balance the functional requirements whilst minimising spill illumination from the Pyrenees Venture FPSO. For safe working practices, the current specification requires lighting levels to be 150 lux at one metre above the deck of the FPSO, being 24 m above sea level with a deck height of approximately 23 m.

The main areas that require direct sea lighting are the emergency departure and muster area on the aft of the ship adjacent to the emergency escape vessel area. This is generally illuminated in the event of an emergency on board and is not classified as normal lighting for the vessel. Additional lighting is required periodically on cranes and around the stern of the Pyrenees Venture FPSO to allow safe lifting and loading and unloading of support vessels and trading tankers.

3.15.11 Chemical injection system

A chemical injection system is provided for the chemical treatment of production fluids (both subsea and topsides) and to protect piping and equipment. This includes a single chemical injection package, methanol injection package and acetic acid injection package. A separate distribution panel is located on the geostationary component of the DTM to facilitate distribution of subsea chemicals.

The system accommodates both continuous and intermittent chemical injection and is designed for minimal manual handling and mainly uses large but standard sized re-usable tanks (tote bins or isotainers for large consumption chemicals) which are filled onshore, shipped offshore, and placed in prearranged dedicated locations to be piped directly into the chemical distribution system. Variable flow positive displacement pumps are used to deliver the chemicals to the required injection points.

Normal loading is from tote/transportable tanks by gravity feed/or pumped to dedicated storage tanks (refer Table 3-11 and Table 3-12 for indicative inventory volumes). Flexible hoses with quick connectors are used to connect the tanks to the hard piped storage tank feed lines. The connectors and flexible hoses are unique for each chemical, used to avoid cross contamination of chemicals.

Individual storage for each chemical is provided and incompatible chemicals are stored in separate bunded areas. The acetic acid and methanol tanks (the largest inventory within the chemical injection area) are individually bunded and drain to the slops tank. The chemical storage area has its own open drains systems, which are described in Section 3.13.6.2.

Indicative chemicals in use and inventories on the Pyrenees Venture FPSO are outlined in Section 3.16.2. Chemicals used in the process and subsea system are recovered onboard the Pyrenees Venture FPSO (normally via the PW system) and reinjected or are alternatively collected and disposed through the slops discharge system.

3.16 Hazardous substances and inventories

This section provides information on the hazardous substances stored and used on the Pyrenees Venture FPSO and is divided into process and non-process hydrocarbons, and process and non-process chemicals.

3.16.1 Process and non-process hydrocarbons

The main indicative process hydrocarbon inventories on the Pyrenees Venture FPSO are summarised in Table 3-11. In addition to the process inventories, the following non-process hydrocarbon inventories are associated with the Pyrenees Venture FPSO:

- crude oil in the cargo tanks – maximum storage capacity 881,000 bbl
- crude oil in the offloading hose (temporarily during offtake, 260 m long and 400 mm diameter)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 23

Page 75 of 530

Uncontrolled when printed. Refer to electronic version for most up to date information.

- diesel oil in the bulk storage tanks and various day tanks – approximately 2,452 m³ (with small quantities stored topsides in the emergency generator and lifeboat).

The hydraulic power units also provide clean hydraulic fluids at various flow rates and pressures to accommodate the requirements of the mooring/topsides and marine users.

Table 3-11: Indicative topsides process hydrocarbon inventories on the Pyrenees Venture FPSO

Inventory	Operating pressure (bar)	Operating temp (°C)	Gas volume (m ³)	Liquid volume (m ³)
First-stage separator V-0101	9	39 to 61	99.3	210
Test separator V-0105	9	14 to 47	35.7	73.2
Second stage separator V-0102	4	95 to 100	54.7	187.9
HP1 suction scrubber V-0301	8.5	45	4.3	1.212
HP2 suction scrubber V-0302	23.7	39	2.5	0.54
HP2 compressor C-0312	67.7	39	1.5	Negligible
Glycol contactor T-0351	65	39	13.3	Negligible
HP3 suction scrubber V-0303	64.6	41	1.2	0.6
HP3 compressor C-0313	169	153	1.5	Negligible
Macedon gas scrubber V-0305	72 to 170	14	4.6	0.78
HP fuel gas filter/separator F-6451	64.5	41	4.6	Negligible
HP fuel gas KO drum F-6401	3.5	46	0.7	0.4
HP flare gas KO V-6401	0.1 to 5	27 to 100	63.8	15.79
LP flare gas KO V-6401	0.1 to 0.5	40 to 132	11.6	16.56
Gas lift and gas injection swivel piping	167.7	60	0.1	Negligible
Offgas cooler E-0131	9	39	16.1	Negligible
Fuel gas system piping	27.6	58.4	1.1	Negligible
Production turret/spider buoy	9	29	2.4	0.33
Gas lift turret/spider buoy	167.7	60	1.7	Negligible
Gas injection turret/spider buoy	167.7	60	1.7	Negligible
Crude export	13	60	Negligible	155.6
Well clean-up package	3.5	60	Negligible	53

3.16.2 Process and non-process chemicals

Table 3-12 provides an indicative list of process chemicals and their indicative storage inventories onboard the Pyrenees Venture FPSO. Table 3-12 also lists the dosing point in the process, their purpose, typical dose rate, chemical type/classification and chemical risk assessment undertaken.

The chemicals with the largest inventories on the Pyrenees Venture FPSO are discussed in further detail below:

- Methanol is used when required in low dose rates to prevent hydrate formation in the production and gas manifolds in the event the glycol dehydration unit is out of service or off specification, or for chemical line flushing. Pyrenees hydrate management under normal steady state operation is achieved through environmental conditions (e.g. ambient temperature is 21°C). Wells may require methanol injection in the event of a protracted shutdown. For long-term shutdowns (e.g. cyclone disconnect), the flowlines are depressurised and do need to be inhibited with methanol.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Demulsifier is injected continuously into the wells. The Pyrenees crude is categorised as a heavy oil with an API gravity of 19. Heavy oil development wellstreams are characterised by water dispersions/emulsions. The point at which the water-in-oil emulsion inverts and the water becomes the continuous phase is referred to as the 'inversion point' or 'critical water-cut'. The Pyrenees crude emulsion inversion point is at approximately 90% water cut.

Maintenance chemicals include chemicals which are required for general maintenance or 'housekeeping' activities and are critical for overall maintenance of the facility and its equipment. These may include paints, degreasers, greases, lubricants, and domestic cleaning products. They may also include chemicals required for specialty tasks, such as laboratory testing and analysis.

Maintenance chemicals generally present negligible risk to the environment as they are not discharged as a result of their use (e.g. paint) or are used intermittently and discharged in low volumes (e.g. domestic cleaning products).

Table 3-12: Indicative process chemical types and storage quantities

Chemical	Chemical name (indicative only)	Dosing point and purpose	Tank capacity	Estimated daily use	Dosage concentration (ppm v/v)	Discharge concentration (ppm v/v)
Hydrate inhibitor (methanol)	Methanol	Subsea wellhead – controls hydrate formation	30 m ³	As required	As required	Variable
Topsides demulsifier	FLOW18280F	Topside process – facilitates separation of oil and water	20 m ³	Not currently used	0 to 50	<30
Water clarifier	CHP917407.32H (Cleartron IZB-172)	Topside process – facilitates separation of oil and water	9.2 m ³	150 L	0 to 10	<30
Scale inhibitor	SCAL16484F2	Topside process and subsea wellheads – controls inorganic scale due to mixing of seawater and PW	11 m ³	250 L	13	<40
Corrosion inhibitor	CORR11447A	Topsides process – controls corrosion	9.2 m ³	650 L	30	<10
Biocide	EC6297A	Slops tank and topside process – controls bacterial count	5.2 m ³	450 L and batch dosed every five and seven days	300	The distributed control system logic prevents PW discharge overboard during process biociding and for four hours post dosing
TEG antifoam	AFMR19029A	Controls foaming on tower	70 L	As required	As required	Variable
Process antifoam	AFMR19242A	Topsides process – controls foam	14.4 m ³	108 L	As required	Variable
TEG pH adjuster	CORR11005A	Adjusts/maintains pH	70 L	As required	As required	Variable
Oxygen scavenger	Nalco 7408	Topsides process – reduces dissolved oxygen concentration to <10 ppb	5.2 m ³	As required	As required	Variable
TEG	TEG	Gas dehydration	11 m ³	As required	As required	Variable

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Chemical	Chemical name (indicative only)	Dosing point and purpose	Tank capacity	Estimated daily use	Dosage concentration (ppm v/v)	Discharge concentration (ppm v/v)
Subsea demulsifier	Baker Hughes DMO83409AP	Subsea wellhead – facilitates separation of oil and water	20 m ³	480 L	0 to 250	<26
Subsea control fluid	Transaqua HT2 (Castrol)	Subsea wellhead – hydraulic fluid	5 m ³	As required	As required	Variable

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

3.16.3 Chemical selection, assessment and approval

As part of Woodside's chemical approval process, operational chemicals are selected and approved in accordance with the Woodside Chemical Selection and Assessment Environment Guideline. This guideline is used to demonstrate that the potential impacts of the chemicals selected are acceptable and ALARP, in line with Woodside's Environmental Performance Procedure. The procedure requires chemicals to be selected with the lowest practicable environmental impacts and risks, subject to technical constraints.

The Woodside Chemical Selection and Assessment Environment Guideline includes the requirements set out by the Australian Government under the Industrial Chemicals Environmental Standard. This framework is a key component of several national reforms to improve approaches to how industrial chemicals are used, produced, imported and managed.

3.16.3.1 Environmental selection criteria

Woodside's process for selecting and assessing chemicals follows the principles outlined in the Offshore Chemical Notification Scheme (OCNS) which manages chemical use and discharge in the United Kingdom (UK) and the Netherlands (background on the OCNS scheme is provided below):

- Where operational chemicals with an OCNS rating of Gold/Silver/E/D and no OCNS substitution or product warning are selected, or a substance is considered to pose little or no risk to the environment, no further control is required. Such chemicals do not represent a significant impact on the environment under standard use scenarios and therefore are considered ALARP and acceptable.
- If other non-rated chemicals are required, or rated chemicals with a substitution warning, chemical selection process and ALARP justifications are undertaken where required.

The ALARP assessment may consider chemical toxicity, biodegradation, and bioaccumulation potential, using industry standard classification criteria. If a product has no specific ecotoxicity, biodegradation, or bioaccumulation data available, these options are considered:

- environmental data for analogous products can be referred to where chemical ingredients and composition are largely identical, or
- environmental data may be referenced for each separate chemical ingredient (if known) within the product.

3.16.3.2 Background overview of Offshore Chemical Notification Scheme

The OCNS Scheme applies the requirements of the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention). The OSPAR Convention is widely accepted as best practice for chemical management.

All chemical substances listed on the OCNS ranked list of registered products have an assigned ranking based on toxicity and other relevant parameters such as biodegradation, and bioaccumulation, in accordance with one of two schemes (as shown in Figure 3-14).

- Hazard Quotient Colour Band: Gold, Silver, White, Blue, Orange and Purple (listed in order of increasing environmental hazard), or
- OCNS Grouping: E, D, C, B or A (listed in order of increasing environmental hazard). Applied to inorganic substances, hydraulic fluids and pipeline chemicals only.

Hazard Quotient Colour Band	Gold	Silver	White	Blue	Orange	Purple
OCNS Grouping	E	D	C	B	A	
	Lowest Hazard Highest Hazard					

Figure 3-14: Offshore Chemical Notification Scheme ranking

3.17 Support vessel operations

Vessels, powered by either liquefied natural gas (LNG) or diesel, are used in a support capacity for transferring personnel in emergency scenarios, material and equipment to and from the facility. Vessels are also used for project field work. All support vessels are required to undergo a Woodside marine assurance inspection to review compliance with marine laws and Woodside safety and environment requirements.

3.17.1 Facility support vessels

Specifications of the Go Provider vessel (Figure 3-15) are presented in Table 3-13 as a representative example of typical specifications of a vessel that supports the Pyrenees operations. Vessels supporting the facility vary depending on vessel schedules and availability. While in the field, the vessel also backloads materials and segregated waste for transport back to the King Bay Supply Facility in Karratha.



Figure 3-15: Typical facility support vessel (Go Provider)

Table 3-13: Indicative facility support vessel specifications (Go Provider)

Attribute	Details
Type	Facility support vessel
Length overall	62.0 m
Breadth	17.0 m
Draft	4.5 m
Dead weight tonnage	1,250 tonnes
Accommodation	Berthing for 34 personnel

3.17.2 Other support vessels

Other support vessels such as crew transfer vessels, subsea support vessels (crewed or remotely operated) are used for field work, including cargo operations and subsea IMMR activities. Vessels supporting the activities may vary depending on operational requirements, vessel schedules, capability and availability.

Typical support vessels use a dynamic positioning (DP) system to allow manoeuvrability and avoid anchoring when undertaking works, due to the close proximity of subsea infrastructure. However, vessels are equipped with anchors which may be deployed in an emergency or during non-routine activities.

Vessels used to support IMMR activities may range in length from 50 m to 120 m and include multi-purpose support vessels and dive support vessels. Typically, only a single vessel would be required to implement IMMR activities. Inspections are typically for one to two weeks and occur once or twice a year. Infrequently,

there may be a requirement (e.g. a minor repair) for more than one vessel. These activities are still typically only one to two weeks. Repairs may also take longer, up to around four weeks, and if occur, typically only occur once every several years.

Vessels operate 24 hours a day. It is anticipated that vessel time for routine inspection will involve no more than one to two weeks per year, depending upon operational requirements. Maintenance and repair activities may result in additional vessel time, depending on the scale and complexity of the work scope. This would be for around four weeks.

Vessels will use DP to maintain position. All vessels will use marine diesel oil or marine gas oil and will be provisioned in port. There will be no refuelling of IMMR vessels in the Operational Area. It is expected that all vessels sourced for IMMR activities will have been previously operating in the North West bioregion, but may be sourced from within Australian waters or internationally if required.

3.18 Helicopter operations

Helicopters are the primary means of transporting passengers and/or urgent freight to and from the Pyrenees Venture FPSO and support vessels. They are also the preferred means of evacuating personnel in an emergency. Helicopter support is principally supplied from Learmonth Airport.

3.19 Subsea inspection, monitoring, maintenance and repair (IMMR) activities

Subsea infrastructure is designed not to require significant intervention. Inspection and maintenance are undertaken to ensure the integrity of the infrastructure and identify problems before they present a risk of loss of containment. Maintaining infrastructure integrity also supports decommissioning planning. Intervention may be required to repair identified problems.

To manage subsea threats (risks) the IMMR process requires an appropriate response to be selected to manage specific equipment risks. This is typically one of: inspection, maintenance, monitoring or repair.

The IMMR process for subsea infrastructure, including suspended equipment, maintains equipment in good condition and repair, for production and to enable future removal.

Subsea activities are typically undertaken from a subsea support vessel or uncrewed surface vessel and may use a remotely operated vehicle (ROV) or autonomous underwater vehicle (AUV) with transponders to inspect equipment, or divers. For some activities, ROVs or AUVs may also be deployed from the Pyrenees Venture FPSO. It is possible that non-routine repair or replacement activities could require up to two IMMR vessels in the Operational Area at the same time, for approximately two weeks.

Maintenance and repair activities may require the deployment of frames/baskets which are temporarily placed on the seabed. These typically have a perforated base with a seabed footprint of about 15 m². This temporary equipment is removed from field via recovery to vessels at the completion of IMMR activities.

Typical IMMR activities are described below.

3.19.1 Inspections

Inspection of subsea infrastructure is the process of physical verification and assessment of components in order to detect changes to the as-installed location and condition by comparison to initial state following installation and previous inspections. Details of typical subsea infrastructure inspections/surveys are provided in Table 3-14. Inspection of the exploration well with wellhead is determined by the WOMP. Scope and frequency of subsea equipment (operational and suspended) are determined using a risk-based inspection (RBI) methodology and associated plans.

RBI is commonly used within the industry as a method for determining inspection frequencies (Energy Institute, 2009; DNV, 2019). RBI for subsea systems that have reached the end of their useful life inherently pose less risk to the environment and may drive a less frequent inspection frequency.

Typical IMMR activities that may occur over the duration of this EP are outlined in Table 3-14.

Typically, total inspection activities are expected to be no more than one to two weeks per campaign with typically no more than two campaigns per year, depending on work task requirements.

3.19.2 Monitoring

Monitoring of subsea infrastructure refers to the process of surveillance of the physical and chemical environment that a subsea system or component is exposed to in order to determine if and when damage may occur, and (where relevant) predict the rate or extent of that damage. Monitoring activities may include process composition testing, corrosion probes, corrosion mitigation checks, metocean and seismic monitoring, and cathodic protection testing. Other monitoring activities include process monitoring (temperature, pressure, etc), cyclone weather monitoring, and hydraulic fluid usage.

3.19.3 Maintenance

Maintenance activities on subsea infrastructure are those required at regular or planned intervals to prevent deterioration or failure of infrastructure. Typical maintenance activities are described in Table 3-14.

3.19.4 Repair

Repair activities are those required when a subsea system or component is degraded, damaged or has deteriorated to a level outside of acceptance limits. Damage sustained may not necessarily pose an immediate threat to continued system integrity but may present an elevated level of risk to environment or production reliability. Due to the design of subsea infrastructure and materials used, repairs are undertaken on an as needs basis. The requirements and frequency of these repairs are dictated by the outcome of the inspection and maintenance regimes described above. Typical subsea repair activities are presented in Table 3-14.

Repair activities can result in minor volumes of fluids released to the marine environment associated with disconnection of the component that is being repaired or replaced. This could result in releases of up to approximately 10 m³ of fluids such as (but not limited to) PW, hydraulic fluids and/or reservoir hydrocarbons.

When equipment is replaced, the redundant equipment may remain in-situ or be removed from the field. The location of redundant subsea infrastructure items is recorded as part of the ROV as left survey and included in a database for the Pyrenees subsea inventory.

Table 3-14: IMMR activities with the potential to occur

IMMR activity	Actions
Inspections	- Visual inspections of subsea components, looking for damage, degradation, debris etc., requires ROVs or AUVs deployed from a vessel or facility - Multi-beam echo sounder (MBES) survey – involves high frequency, echo sounder along the flowlines and/or umbilical - Side scan sonar (SSS) surveys – involves the use of high frequency along the flowlines and/or umbilical
Monitoring	Cathodic potential readings, to confirm corrosion protection is working – involves ROVs taking cathodic protection measurements
Maintenance	- Cathodic protection maintenance – replacement/new cathodic protection sacrificial anodes may be installed on or adjacent (within the Operational Area) to infrastructure using a vessel and ROV - Burial or deburial of flowlines and/or umbilicals - Removal or relocation of foreign objects – such as boulders, debris - Valve/choke/subsea control module replacement (e.g. on subsea trees and manifolds) - Control lead replacement installation (e.g. hydraulic, electrical and fibre optic flying leads) - Marine growth/scale removal from subsea structures using ROVs to water blast and/or acid chemical wash (if required to facilitate removal)
Repair	- Removal, replacement or repair of manifold (water injection, control and production) (up to 32 m² seabed disturbance footprint for a new manifold) - Removal and/or replacement of anode assembly skid(s) - Removal and/or replacement of umbilical – typically 'like for like' replacement undertaken using ROV from a vessel

IMMR activity	Actions
	Flowline/umbilical repairs – could involve the installation of structural clamps or HP repair clamps; these activities are typically undertaken from a single vessel using ROV lifting equipment

3.19.5 Subsea chemical usage

Planned chemical discharges may occur during a range of subsea system operation and IMMR activities. However, these are either small volumes, or discharged intermittently. Operational chemicals to be used in the Pyrenees subsea infrastructure are selected and assessed using Woodside's chemical selection and assessment guideline, as described in Section 6.7.7. Typical chemicals that are used at the subsea infrastructure and may be released during IMMR activities include, but are not limited to:

- Control fluid – The subsea control fluid presently used in the Pyrenees subsea control systems is HT2 (a water glycol mix). Control fluid may be dosed with dye to enable leak location detection.
- Hydrate control – as ambient temperature is approximately 21°C, hydrate mitigation is not typically required. Methanol is used if hydrate management is required.
- Corrosion inhibitor – Corrosion inhibitor may be used to manage and prevent corrosion within flowlines. It is not currently used in Pyrenees.
- Biocide – Biocides are generally used to prevent the bacterial growth in flowlines that may cause corrosion. It is not currently used in Pyrenees, except for discrete use when performing operations that require breaking hydrocarbon containment such as choke change outs, where a biocide stick is inserted into the cavity prior to make up.
- Acid – Where removal of scale deposits is required an acid solution such as sulphamic acid or Magwash (or an equivalent) is used.
- Oxygen scavenger – Oxygen scavenger may be used to reduce/de-oxygenate the flowlines and prevent corrosion and aerobic bacterial growth. It is not currently used in Pyrenees.
- Grout – The material used in grout, mattresses and rock is typically concrete-based.
- Staurolite products – Used for abrasive/sand blasting to clean and remove marine growth, the main component is staurolite, which is a naturally forming mineral.

3.19.6 Intervention isolations

There may be environmental discharges during subsea IMMR activities, for example during pressure/leak testing or flushing. Where practicable, flushing is performed prior to disconnection of a subsea component to reduce residual hydrocarbon or chemical releases to the subsea environment upon disconnection. The flushing chemicals used for this Petroleum Activity may be supplied from either the Pyrenees Venture FPSO or a chemical package via a downline from a support vessel. Where possible, flushed fluids are returned to the Pyrenees Venture FPSO and processed and treated through the production system. Table 3-15 below shows typical discharge volumes during different IMMR activities.

Table 3-15: Typical discharge volumes during different IMMR and subsea activities

Activity	Description
Pressure/leak testing	Chemical dye estimates <10 L
Flushing	Residual hydrocarbon or chemical release volume is dependent upon component geometry and pumping rates
Hot stab changeout	Hydrocarbons or control fluid estimated <10 L
Subsea control module changeout	A typical release of diluted acid is up to 4,000 L and of control fluid estimated to be 10 L
Hydraulic flying lead and umbilical replacement	Typical releases of hydraulic fluid and chemicals is estimated to be <1 L each
Choke changeout	Release of hydrocarbons ~<10 L and a typical acid release of ~<1,000 L
Manifold replacement	Release of small volumes of PW, approximately 10 m ³

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

3.19.7 Marine growth removal

Due to the relatively high rate of marine growth on the North West Shelf (NWS), it is necessary to remove excess growth prior to undertaking many subsea IMMR activities. Marine growth removal is undertaken by ROV. The different techniques that may be used for the Petroleum Activity are described in Table 3-16.

Table 3-16: Marine growth removal techniques

Activity/equipment	Description
Water jetting	Uses HP water to remove marine growth
Brush systems	Uses brushes attached to a ROV to remove marine growth
Acid	Chemically dissolves scale deposits
Sand/abrasive blasting	Additional cleaning to allow close visual inspections (rare, not typical)

3.19.8 Sediment relocation

If sediment builds up around a flowline or other subsea infrastructure, an ROV-mounted suction pump/dredging unit may be used to relocate the sediment to allow inspection/works to be undertaken. This Petroleum Activity is limited to the relocation of small amounts of sediment material in the immediate vicinity of the subsea infrastructure (i.e. within the existing footprint). Sediment relocation typically results in minor seabed disturbance and some localised turbidity.

3.20 Waste management

Waste is segregated onboard the Pyrenees Venture FPSO and support vessels and stored in designated skips and waste containers for disposal at appropriate facilities onshore. Wastes are segregated into:

- non-hazardous waste (or general waste)
- hazardous waste
- recyclables.

3.20.1 General non-hazardous wastes

General non-hazardous wastes include domestic and galley waste, scrap materials, packaging, wood and paper and empty containers. Non-hazardous waste materials are stored on board the Pyrenees Venture FPSO and support vessels in suitable containers (segregated from hazardous waste materials) ahead of transport back to shore for disposal/recycling in accordance with regulations.

3.20.2 Hazardous wastes

Hazardous wastes are defined as waste materials that are or contain ingredients harmful to health or the environment. Hazardous wastes generated during the Pyrenees Facility operations include recovered solvents, excess or spent chemicals, oil contaminated materials (e.g. sorbents, filters and rags), batteries and used lubricating oils. The volumes of hazardous wastes expected to be generated at the Pyrenees Facility are relatively small.

3.20.3 Naturally occurring radioactive materials and sand management

Naturally occurring radioactive materials (NORMs) may be brought up from the reservoirs and accumulate in some pipes and vessels on the Pyrenees Venture FPSO. Three main types of material which may contain NORMs have reported to be found on the facility:

- Scale may be found in upper parts of well completion strings, where it may precipitate out from PW of high salinity and may contain sulphates and carbonates. The most common scale is barium sulphate. Scale-forming material may also precipitate on sand and sludge particles and scale debris may be mixed with sludge and sand inside process vessels.
- Sludge may be found in the slops tanks. The main components of sludge are fine particles of scale, sand, corrosion products, flakes of paint.
- Coarse sand and scale particles, usually retained in separators and sand traps and removed from separators by sparging.

NORMs emit gamma radiation and are a cause of external gamma radiation exposures. Pyrenees facility NORMs are likely to be in the category of low specific activity radioactive materials. Low specific activity radioactive materials can emit only a limited amount of radiation which is unlikely to deliver a high radiation dose similar to 'strong' radiography or radiotherapy radioactive sources. Due to this fact, radiation exposures and the radiological impact on marine life due to discharges of small volumes of NORMs are likely to be negligible.

A small amount of material from investigations of the process fluids piping systems have yielded low level NORMs. To reduce the accumulation of sand that may contain NORMs, the Pyrenees Facility include the following sand management measures:

- Sand screens are in place on the wells.
- Sand detection/monitoring is included on the subsea manifolds and on the commingled production and test headers located on the turret to enable early detection of screen failure.
- The topside process vessels are equipped with on-line sand removal and sand washing facilities for removal of accumulated sand.

NORMs that are detected on the Pyrenees Facility are managed in accordance with PYHSE-H-0010 – Managing Naturally Occurring Radioactive Materials, which includes the following controls:

- Routinely monitor radiation around the Pyrenees Venture FPSO and on opening of process vessels using a hand-held meter (such as the Rotem DA-3 or Automess 6150), which indicates the radiation levels in uSv/h. All monitoring is to be conducted by the on-board Radiation Officer. Trigger values for scale and sludge are an external dose rate of >0.7 uSv/h and pipework and valves is an external dose rate of >0.5 uSv/h.
- In the event trigger values are exceeded, collect, store and transport the material for onshore disposal in accordance with legislative requirements (*Radiation Protection Act 2004*).
- Restricted access to areas where NORMs may be present.
- Apply guidelines for working within vessels that may be contaminated with NORMs.
- Sample scale, sand and sludge as required.
- Implement procedures for storage, handling and transport and disposal of NORMs-contaminated material.

In the event that meter readings indicate an increased risk of NORMs on the Pyrenees Venture FPSO, the treated PW and slops water will be tested for NORMs (Radium 226 and 228). NORMs have been included as a parameter in the surface water quality monitoring program historically with concentrations in receiving water being below the limits of reporting (Advisian, 2022).

4 DESCRIPTION OF THE EXISTING ENVIRONMENT

4.1 Overview

In accordance with Regulations 21(2) and 21(3) of the Environment Regulations, this section describes the existing environment that may be affected by the Petroleum Activity (planned and unplanned), as described in Section 3, including details of the particular relevant values and sensitivities of the environment, which were used for the risk assessment.

The EMBA is the largest spatial extent where unplanned events could have an environmental consequence on the surrounding environment. For this EP, the EMBA is the combined potential spatial extent of surface and in-water hydrocarbons at concentrations above ecological impact thresholds, in the following scenario:

- Scenario 1: An uncontrolled subsea loss of well control for a duration of 69 days.

The ecological impact thresholds used to delineate the EMBA are defined in Table 4-1. The EMBA also includes any areas that are predicted to experience shoreline contact with hydrocarbons above threshold concentrations. The EMBA is shown in Figure 4-1.

A second EMBA has also been defined based on the thresholds for potential socio-cultural impact, as defined in Table 4-1. This EMBA is referred to as the 'socio-cultural EMBA' and is used to identify social, cultural and economic receptors that could be impacted during a credible hydrocarbon spill scenario.

Collectively the EMBA and socio-cultural EMBA are referred to as 'the combined EMBA'.

The EMBA presented does not represent the predicted coverage of any one hydrocarbon spill or a depiction of a slick or plume at any particular point in time. Rather, the areas are a composite of a large number of theoretical paths, integrated over the full duration of the simulations under various metocean conditions.

Table 4-1: Hydrocarbon spill thresholds used to define the environment that may be affected (EMBA) for surface and in-water hydrocarbons

Hydrocarbon type	EMBA ¹	Socio-cultural EMBA ¹	Planning area for operational and scientific monitoring
Surface	10 g/m ² This represents the minimum oil thickness (0.01 mm) at which ecological impacts (e.g. to birds and marine mammals) are expected to occur.	1 g/m ² This represents a wider area where a visible sheen may be present on the surface and, therefore, the concentration at which socio-cultural impacts to the visual amenity of the marine environment may occur. However, it is below concentrations at which ecological impacts are expected to occur. This low exposure value also establishes the planning area for operational and scientific monitoring (NOPSEMA guidance note: A652993, April 2019).	
Dissolved	50 ppb This represents potential toxic effects, particularly sublethal effects to highly sensitive species (NOPSEMA guidance note: A652993, April 2019). As dissolved hydrocarbons are within the water column and not visible, impacts to socio-cultural receptors are associated with ecological impacts. Therefore, dissolved hydrocarbons at this threshold also represent the level at which socio-cultural impacts may occur.		10 ppb This low exposure value establishes the planning area for operational and scientific monitoring (based on potential for exceedance of water quality triggers) (NOPSEMA guidance note: A652993, April 2019). In the event of a spill, DNP will be notified of AMPs which may be contacted by hydrocarbons at this threshold.
Entrained	100 ppb This represents potential toxic effects, particularly sublethal effects to highly sensitive species (NOPSEMA guidance note: A652993, April 2019). As entrained hydrocarbons are within the water column and not visible, impacts to socio-cultural receptors are associated with ecological impacts. Therefore, entrained hydrocarbons at this threshold also represent the level at which socio-cultural impacts may occur.		

Hydrocarbon type	EMBA ¹	Socio-cultural EMBA ¹	Planning area for operational and scientific monitoring
Shoreline	100 g/m ² This represents the threshold that could impact the survival and reproductive capacity of benthic epifaunal invertebrates living in intertidal habitat.	10 g/m ² This represents the volume where hydrocarbons may be visible on the shoreline but is below concentrations at which ecological impacts are expected to occur.	N/A

¹ Further details including the source of the thresholds used to define the EMBA in this table are provided in Section 6.8.1

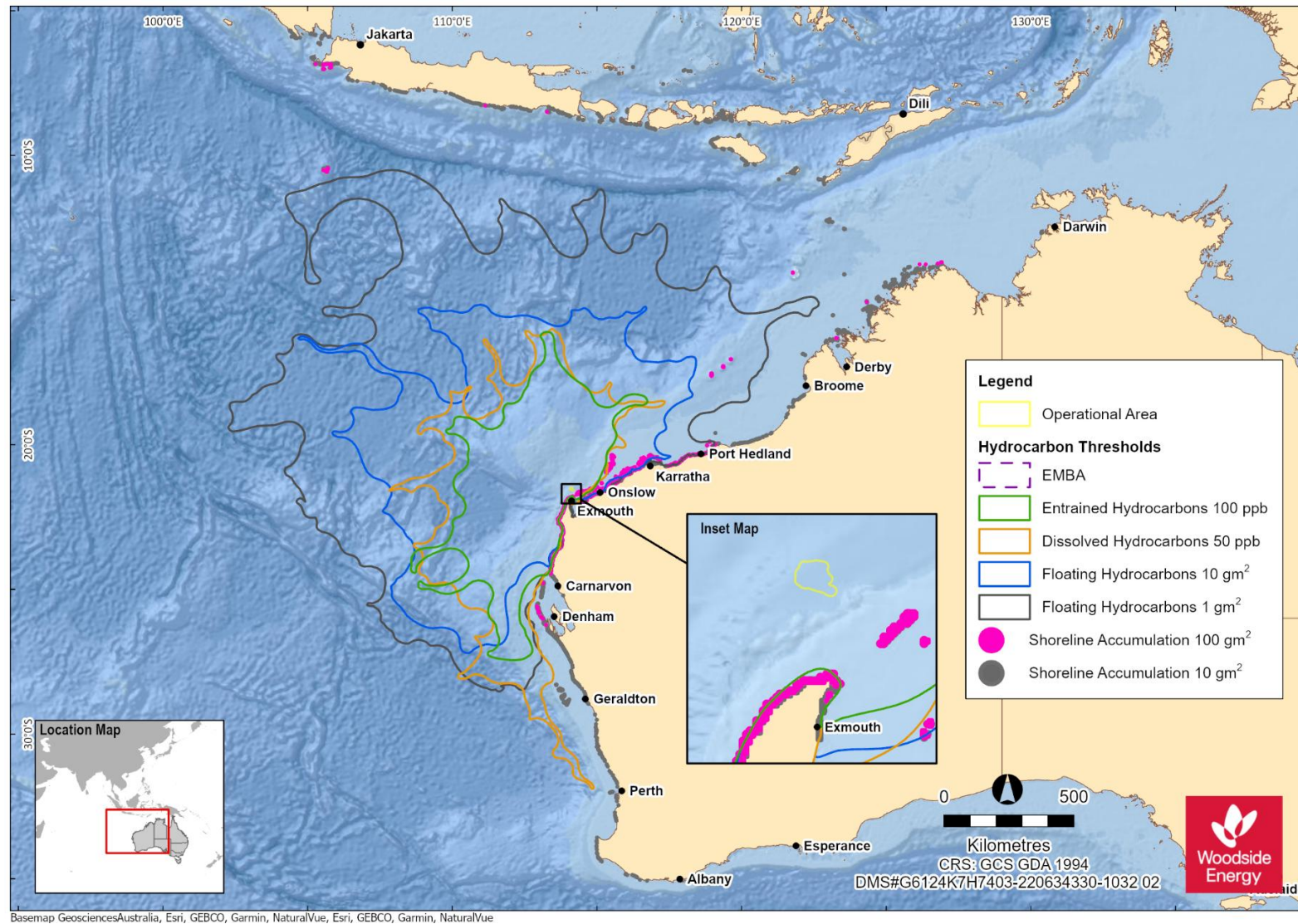


Figure 4-1: Environment that may be affected by the Petroleum Activity

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.2 Regional context

The Operational Area is located in Commonwealth waters within the North-west Marine Region (NWMR) as defined under the Integrated Marine and Coastal Regionalisation of Australia (v4.0) (Commonwealth of Australia, 2006), in water depths of approximately 190 to 215 m. Within the NWMR, the Operational Area lies within the NWS Province, the Northwest Province and the Central Western Shelf Transition (Figure 4-2).

Woodside's Master Existing Environment document (Appendix J) summarises the characteristics of the relevant marine provincial bioregions.

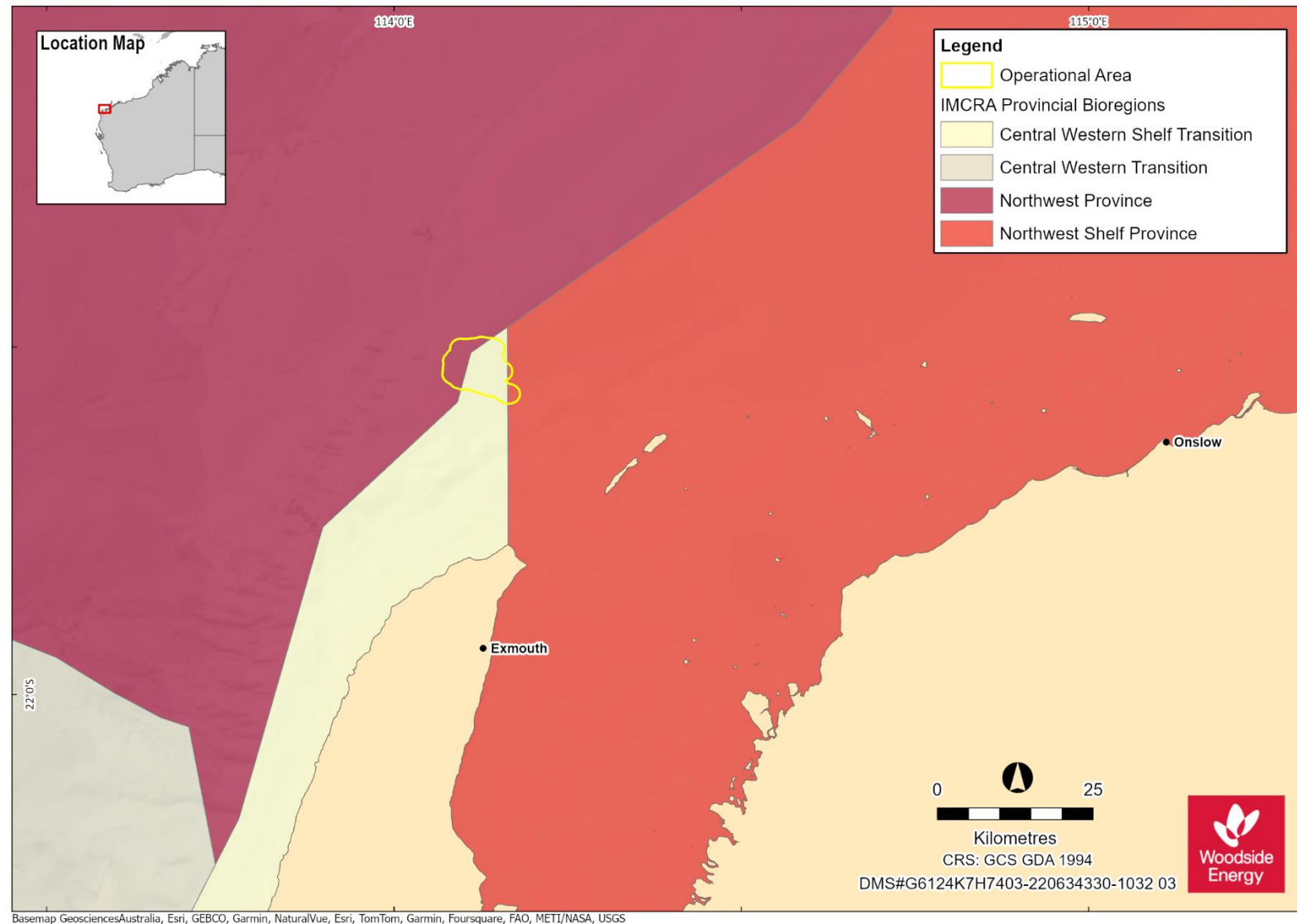


Figure 4-2: Location of the Operational Area and relevant marine provincial bioregions

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.3 Matters of national environmental significance (EPBC Act)

Table 4-2 summarises the MNES overlapping the Operational Area and EMBA, respectively, according to the Protected Matters Search Tool (PMST) results (Appendix C). It should be noted that the EPBC Act PMST is a general database that conservatively identifies areas in which protected species have the potential to occur.

Additional information on these MNES is provided in subsequent sections of this chapter and described in detail in Appendix J.

Table 4-2: Summary of matters of national environmental significance identified by the EPBC Act Protected Matters Search Tool as potentially occurring within the Operational Area and EMBA

MNES	Operational Area	EMBA	Relevant Section
World Heritage properties	0	2	Section 4.9.5
National Heritage places	0	4	Section 4.9.5
Wetlands of international importance (Ramsar)	0	0	Section 4.8
Commonwealth Marine Area	2	6	Section 4.8
Listed threatened ecological communities	0	0	Section 4.8
Listed threatened species	26	88	Section 4.6
Listed migratory species	40	98	Section 4.6

4.4 Physical environment

The Operational Area lies on the outer continental shelf in water depths of approximately 190 to 215 m (Figure 4-3). The Operational Area is located on the shelf break, the transition from continental shelf to slope, and is generally flat and featureless with some minor depressions.

The physical environment consistent with the NWMR is described in detail in Appendix J.

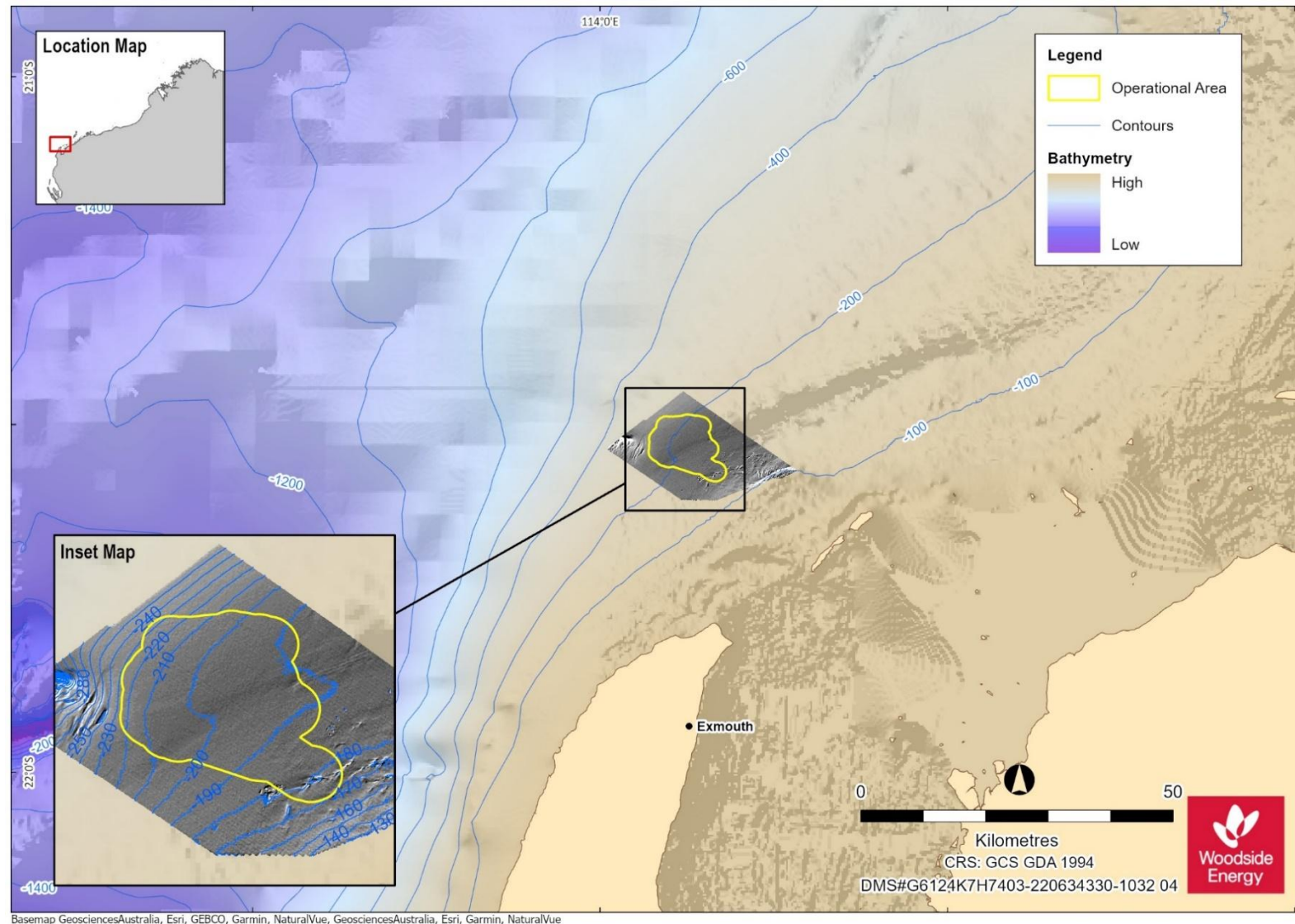


Figure 4-3: Bathymetry of the Operational Area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.5 Habitats and biological communities

Sediments in the Operational Area are comprised primarily of soft sediment, i.e. mud and calcareous clay which is consistent with the wider North West Province, NWS Province and the Central Western Shelf Transition. In 2005, 2015 and 2021 sediment characteristics at the Pyrenees Facility were surveyed (Advisian, 2015; 2021). Results showed the western portion of the seabed in the area (190 to 260 m depth) are characterised by gravely fine to coarse carbonate sands, while the seabed sediments in the eastern part of the area (190 to 200 m depth) are soft, fine sediments, mainly carbonate silts and clays (BHP, 2022). Further, video footage from 2002 of a sled towed across parts of the Operational Area showed rippled sediment, with rocky nodules and sparse but reasonably even distribution of sponges and soft corals. Typically, soft corals or sponges were seen attached to these small patches of hard substrate, with fish and other invertebrates gathered around (Australian Institute of Marine Science, 2002).

Hard substrates will occur more broadly in the region and can host more diverse benthic communities. Hard substrate may be associated with the Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula key ecological feature (KEF) (Section 4.7), which overlaps the Operational Area.

Key habitats and ecological communities within the EMBA are identified in Table 4-3 and described below.

Table 4-3: Habitats and communities within the EMBA

Habitat/ community	Key locations within the EMBA and approximate distance from the Operational Area where relevant
Marine primary producers	
Coral	Ningaloo Coast (9.3 km south) Muiron Islands (19 km south-east) Barrow Island (138 km north-east) Montebello Islands (179 km north-east) Shark Bay (359.4 km south) Rowley Shoals (641.1 km north-east) Houtman Abrolhos islands (745.9 km south) Rottnest Island (1,159.4 km south) Christmas Island (1,518.6 km north-west)
Seagrass beds and macroalgae	Ningaloo Coast (9.3 km south) Muiron Islands (19 km south-east) Exmouth Gulf (39 km south-east) Barrow Island (138 km north-east) Montebello Islands (179 km north-east) Shark Bay (359.4 km south) Jurien Bay (972.8 km south) Busselton (1,345.6 km south)
Mangroves	Ningaloo Coast (9.3 km south) Exmouth Gulf (39 km south-east) Montebello Islands (179 km north-east) Dampier (281.4 km north-east) Carnarvon (369.7 km south) Port Headland (477.9 km north-east) Broome (933.2 km north-east)

Habitat/ community	Key locations within the EMBA and approximate distance from the Operational Area where relevant
Other communities and habitats	
Plankton	Plankton within the Operational Area and EMBA are expected to be representative of the wider NWMR, as detailed in Appendix J. Peak primary productivity within the EMBA occurs in late summer/early autumn, along the shelf edge of the Ningaloo Reef. It also links to a larger biologically productive period in the area that includes mass coral spawning events, peaks in zooplankton and fish larvae abundance (Department of Conservation and Land Management, 2005), with periodic upwelling throughout the year. Further detail regarding productivity at other notable locations within the EMBA (e.g. North West Cape) is provided in Appendix J.
Pelagic and demersal fish populations	Pelagic and demersal fish populations within the Operational Area and EMBA are expected to be representative of the NWMR (described in Appendix J). Particular features overlapping the Operational Area that are known to support pelagic and demersal fish populations include the Continental Slope Demersal Fish Communities KEF. Features within the EMBA which support fish populations include the Ancient Coastline at 125 m Depth Contour KEF, Commonwealth Waters Adjacent to Ningaloo Reef, Western Demersal Slope and Associated Fish Communities, Glomar Shoals, Mermaid Reef and Commonwealth waters surrounding Rowley Shoals, etc. These features are described in Appendix J. Notably, the presence of subsea infrastructure associated with the Pyrenees Facility has resulted in the development of demersal fish communities that would otherwise not occur in the Operational Area due to the generally featureless, soft substrate that is present (McLean et al., 2017).
Epifauna and infauna	Filter feeders such as sponges, ascidians, soft corals, and gorgonians are animals that feed by actively filtering suspended matter and food particles from water by passing the water over specialised filtration structures (Department of the Environment, Water, Heritage and the Arts, 2008). Filter feeders within the EMBA are expected to be representative of the NWMR, with notable areas of high sponge diversity occurring in the Commonwealth waters of Ningaloo Marine Park (see Appendix J). Discrete areas of hard substrate hosting sessile filter feeding communities may also be associated within the Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula, which overlaps the Operational Area. Filter feeder communities within the Operational Area are present on the subsea infrastructure, which provides hard substrate for attachment in an otherwise generally featureless, soft and sandy substrate.

4.6 Protected species

A total of 130 EPBC Act listed threatened or migratory species considered to be MNES were identified as potentially occurring within the EMBA, of which a subset of 36 species was identified as potentially occurring within the Operational Area. Species identified in the PMST that do not have a marine or migratory listing, are not considered to inhabit shorelines, or rely on the marine environment for their diet or survival were not considered in this section. These species were identified by the PMST search method, which applies a grid block system that conservatively identifies areas in which protected species have the potential to occur. A full list of species is provided in Appendix J. These results inform the assessment of impacts from planned and unplanned events (Section 6.7 and Section 6.8).

Biologically important areas (BIAs) are defined by the Marine Bioregional Plan for the North-west Marine Region as areas of spatial aggregation of individuals within a species known to demonstrate biologically important behaviour (Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC), 2012a). Examples of such behaviours include breeding, foraging, resting or migration.

Threatened and/or migratory species identified as potentially occurring within the Operational Area and EMBA, and BIAs or habitat critical to their survival (habitat critical) that overlap the Operational Area and EMBA, are listed in Table 4-4 to Table 4-12. A description of species is included in Appendix J.

Figure 4-4 to Figure 4-14 show the spatial overlap with relevant BIAs and habitat critical areas and the Operational Area and EMBA.

4.6.1 Fish, sharks and rays

A total of 23 EPBC-listed threatened and/or migratory fish species have been identified to potentially occur within the Operational Area or EMBA. Sixteen of these species are listed as threatened and 13 listed as migratory (Table 4-4). There are also 63 EPBC-listed marine species in the EMBA, which do not have a threatened or migratory status and include a variety of pipefish and sea dragons. These species are described in Appendix J.

The Operational Area overlaps the foraging (high density prey) BIA for the whale shark as outlined in Figure 4-4. Four other fish and shark species have BIAs within the EMBA and are outlined in Table 4-5 and detailed further in Appendix J.

Table 4-4: Threatened and migratory fish, shark and ray species predicted to occur within the Operational Area and EMBA

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Carcharias taurus</i> (west coast population)	Grey nurse shark (west coast population)	Vulnerable	N/A	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Sphyrna lewini</i>	Scalloped hammerhead	Conservation Dependent	N/A	Species or species habitat likely to occur within area	Species or species habitat known to occur within area
<i>Thunnus maccoyii</i>	Southern bluefin tuna	Conservation Dependent	N/A	Species or species habitat likely to occur within area	Breeding known to occur within area
<i>Anoxypristis cuspidata</i>	Narrow sawfish	N/A	Migratory	Species or species habitat may occur within area	Species or species habitat may occur within area
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	N/A	Migratory	Species or species habitat likely to occur within area	Species or species habitat may occur within area
<i>Isurus oxyrinchus</i>	Shortfin mako	N/A	Migratory	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
<i>Isurus paucus</i>	Longfin mako	N/A	Migratory	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
<i>Manta alfredi</i>	Reef manta ray	N/A	Migratory	Species or species habitat known to occur within area	Species or species habitat known to occur within area
<i>Manta birostris</i>	Giant manta ray	N/A	Migratory	Species or species habitat known to occur within area	Species or species habitat may occur within area
<i>Galaxiella nigrostriata</i>	Blackstriped dwarf galaxias	Endangered	N/A	N/A	Species or species habitat known to occur within area
<i>Glyphis garricki</i>	Northern river shark	Endangered	N/A	N/A	Species or species habitat may occur within area
<i>Milyeringa veritas</i>	Cape Range cave blind gudgeon	Vulnerable	N/A	N/A	Species or species habitat known to occur within area
<i>Nannatherina balstoni</i>	Balston's pygmy perch	Vulnerable	N/A	N/A	Species or species habitat known to occur within area
<i>Ophisternon candidum</i>	Blind cave eel	Vulnerable	N/A	N/A	Species or species habitat known to occur within area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Carcharodon carcharias</i>	White shark, great white shark	Vulnerable	Migratory	N/A	Species or species habitat likely to occur within area
<i>Pristis clavata</i>	Dwarf sawfish, queensland sawfish	Vulnerable	Migratory	N/A	Breeding known to occur within area
<i>Pristis pristis</i>	Freshwater sawfish	Vulnerable	Migratory	N/A	Species or species habitat known to occur within area
<i>Pristis zijsron</i>	Green sawfish, dindagubba	Vulnerable	Migratory	N/A	Species or species habitat known to occur within area
<i>Rhincodon typus</i>	Whale shark	Vulnerable	Migratory	N/A	Species or species habitat may occur within area
<i>Centrophorus uyato</i>	Little gulper shark	Conservation Dependent	N/A	N/A	Species or species habitat likely to occur within area
<i>Galeorhinus galeus</i>	School shark	Conservation Dependent	N/A	N/A	Species or species habitat likely to occur within area
<i>Hoplostethus atlanticus</i>	Orange roughy	Conservation Dependent	N/A	N/A	Species or species habitat likely to occur within area
<i>Lamna nasus</i>	Porbeagle, mackerel shark	N/A	Migratory	N/A	Species or species habitat likely to occur within area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 4-5: Fish, shark and ray biologically important areas (BIAs) within the Operational Area and EMBA

Species	BIAs ¹ within the EMBA and approximate distance to the Operational Area			
	Foraging	Migration	Pupping	Nursing
Whale shark	Northward from Ningaloo along 200 m isobath (overlaps) Ningaloo Marine Park and adjacent Commonwealth waters (high abundance) (12.2 km south-west)	No migration BIA identified within the EMBA	No pupping BIA identified within the EMBA	No nursing BIA identified within the EMBA
White shark	Waters off pinniped colonies through the South-west Marine Region (757 km south-west)	No migration BIA identified within the EMBA	No pupping BIA identified within the EMBA	No nursing BIA identified within the EMBA
Dwarf sawfish	Eighty Mile Beach (611 km north-east)	No migration BIA identified within the EMBA	Eighty Mile Beach (611 km north-east)	Eighty Mile Beach (611 km north-east)
Green sawfish	Cape Keraudren (604 km north-east)	No migration BIA identified within the EMBA	Cape Keraudren (604 km north-east) Eighty Mile Beach (611 km north-east) Willie Creek (937.7 km north-east)	Cape Keraudren (604 km north-east) Eighty Mile Beach (611 km north-east)
Freshwater sawfish	Eighty Mile Beach (611 km north-east)	No migration BIA identified within the EMBA	Eighty Mile Beach (611 km north-east)	No nursing BIA identified within the EMBA

BIA locations are described in the National Conservation Values Atlas.

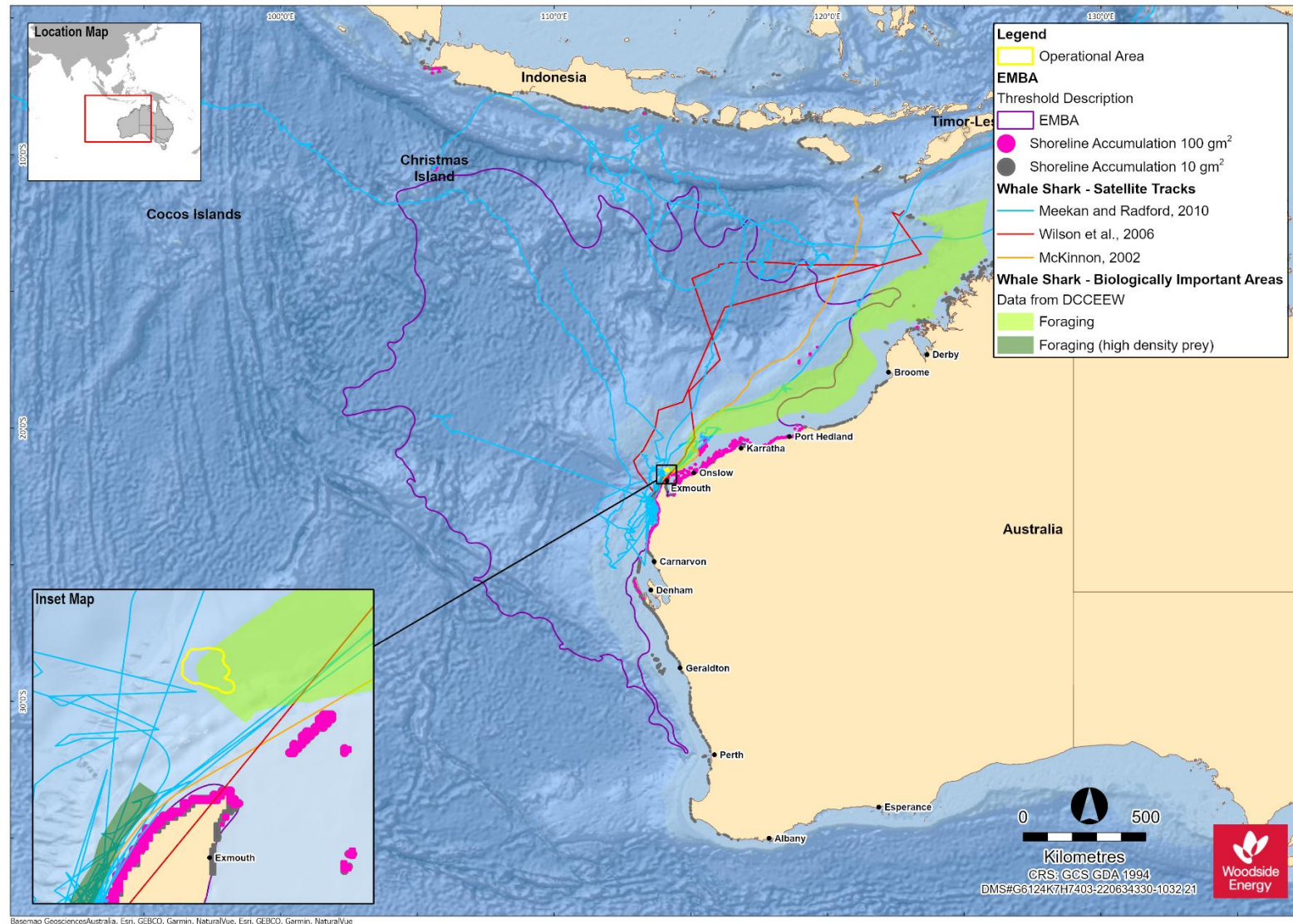


Figure 4-4: Whale shark BIAs and satellite tracks of whale sharks tagged between 2005 and 2008

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.6.2 Marine reptiles

A total of nine EPBC listed threatened and/or migratory reptile species have been identified to potentially occur within the Operational Area or EMBA. Eight of these are threatened species and seven are listed as migratory species, as outlined in Table 4-6.

BIAs for the flatback turtle, green turtle, hawksbill turtle and loggerhead turtle overlap the Operational Area as described in Table 4-6 and shown in Figure 4-5.

Habitat critical for the green turtle, loggerhead turtle, flatback turtle and the hawksbill turtle is overlapped by, or adjacent to, the Operational Area as shown in Figure 4-6 and described in Table 4-6.

BIAs and critical habitat for these four species, and the olive ridley turtle, associated with the EMBA are shown in Figure 4-7 and Figure 4-8 and described in Table 4-7.

An additional 21 EPBC-listed marine reptile species occur in the EMBA, which do not have threatened or migratory status. The majority of these are sea snake species. These listed marine species are described in Appendix J.

Table 4-6: Threatened and migratory marine reptile species predicted to occur within the Operational Area and EMBA

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Caretta caretta</i>	Loggerhead turtle	Endangered	Migratory	Congregation or aggregation known to occur within area	Breeding, foraging, feeding or related behaviour known to occur within area
<i>Dermochelys coriacea</i>	Leatherback turtle	Endangered	Migratory	Species or species habitat known to occur within are.	Breeding likely to occur within area Foraging, feeding or related behaviour known to occur within area
<i>Chelonia mydas</i>	Green turtle	Vulnerable	Migratory	Species or species habitat known to occur within are.	Breeding known to occur within area
<i>Eretmochelys imbricata</i>	Hawksbill turtle	Vulnerable	Migratory	Congregation or aggregation known to occur within are.	Breeding, foraging, feeding or related behaviour known to occur within area
<i>Natator depressus</i>	Flatback turtle	Vulnerable	Migratory	Congregation or aggregation known to occur within are.	Breeding, foraging, feeding or related behaviour known to occur within area
<i>Aipysurus apraefrontalis</i>	Short-nosed seasnake	Critically Endangered	N/A	N/A	Species or species habitat known to occur within area
<i>Aipysurus foliosquama</i>	Leaf-scaled seasnake	Critically Endangered	N/A	N/A	Species or species habitat known to occur within area
<i>Lepidochelys olivacea</i>	Olive ridley turtle	Endangered	Migratory	N/A	Species or species habitat likely to occur within area Foraging, feeding or related behaviour likely to occur within area
<i>Crocodylus porosus</i>	Salt-water crocodile	N/A	Migratory	N/A	Species or species habitat likely to occur within area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 4-7: Marine turtle BIAs within the Operational Area and the EMBA

Species	BIAs ¹ within the EMBA and Approximate Distance to the Operational Area							
	Mating	Nesting	Internesting	Internesting Buffer	Foraging	Aggregation	Migration	Basking
Flatback turtle	Barrow Island (132 km north-east) Coral reef habitat west of the Montebello Islands group (167 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north-east) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (177 km north-east)	Thevenard Island – South coast (49 km north-east) Barrow Island (132 km north-east) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (177 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north east) Intercourse Island (264 km north-east) Legendre Island and Huay Island (310 km north-east) Dixon Island (313 km north-east) Delambre Island (321 km north-east) West of Cape Lambert (324 km north-east) Cape Thouin, Mundabullangana, Cowrie Beach (410 km north-east) Port Hedland, Cemetery Beach (481km north-east) Port Hedland, Pretty Pool (484 km north-east) Port Hedland, Paradise Beach (490 km north-east) North Turtle Island (519 km north-east) Eighty Mile Beach (607 km north-east) Lacepede Island (972 km north-east)	Coral reef habitat west of the Montebello Islands group (167 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north-east) Lacepede Island (972 km north-east)	Thevenard Island – South coast (Overlaps) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (100 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (182 km north-east) Intercourse Island (189 km north-east) Legendre Island and Huay Island (235 km north-east) Delambre Island (246 km north-east) Dixon Island (239 km north-east) West of Cape Lambert (249 km north-east) Cape Thouin, Mundabullangana, Cowrie Beach (335 km north-east) North Turtle Island (443 km north-east) Port Hedland, Cemetery Beach (405 km north-east) Port Hedland, Paradise Beach (416 km north-east) Port Hedland, Pretty Pool (409 km north-east) Eighty Mile Beach (607 km north-east) Lacepede Island (894 km north-east)	String of islands between Cape Preston and Onslow, inshore of Barrow Island (118 km north-east) Barrow Island (132 km north-east) Coral reef habitat west of the Montebello Islands group (167 km north-east) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (177 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north-east) Delambre Island (321 km north-east) Legendre Island and Huay Island (310 km north-east) De Grey River area to Bedout Island (499 km north-east) James Price Point (872 km north-east)	Coral reef habitat west of the Montebello Islands group (168 km north-east)	Dampier Archipelago (islands to the west of the Burrup Peninsula) (258 km north-east) (migration corridor)	No basking BIA identified within the EMBA
Green turtle	Middle Island, West Coast Barrow Island, West Coast and North Coast (131 km north-east) Montebello Islands (172 km north-east) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (177 km north-east) Coral reef habitat west of the Montebello island group (167 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north-east)	North and South Muiron Island (19 km south-east) North West Cape (27 km south) Middle Island, West Coast Barrow Island, West Coast and North Coast (131 km north-east) Montebello Islands (172 km north-east) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (177 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north-east) Legendre Island and Huay Island (310 km north-east) Delambre Island (321 km north-east)	Barrow Island (132 km north-east) Coral reef habitat west of the Montebello Islands group (167 km north-east) Montebello Islands (172 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north-east) Lacepede Island (972 km north-east) Scott Reef (1,141 km north-east)	North West Cape (overlaps) North and South Muiron Island (overlaps) Middle Island, West Coast Barrow Island, West Coast and North Coast (113 km north-east) Montebello Islands (153 km north-east) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (158 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (238 km north-east) Legendre Island and Huay Island (291 km north-east) Delambre Island (303 km north-east)	String of islands between Cape Preston and Onslow, inshore of Barrow Island (118 km north-east) Inshore tidal and shallow subtidal areas around Barrow Island (132 km north-east) Coral reef habitat west of the Montebello Islands group (167 km north-east) Montebello Islands (172 km north-east) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (177 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north-east)	Between Middle and North Mangrove Island – big shallow intertidal flats (119 km north-east) Coral reef habitat west of the Montebello Islands group (167 km north-east)	Dampier Archipelago (islands to the west of the Burrup Peninsula) (258 km north-east) (migration corridor)	Middle Island; West Coast Barrow Island West Coast and North Coast (131 km north-east)

Species	BIAs ¹ within the EMBA and Approximate Distance to the Operational Area							
	Mating	Nesting	Internesting	Internesting Buffer	Foraging	Aggregation	Migration	Basking
		Lacepede Island (972 km north-east) Scott Reef – Sandy Islet (1,148 km north-east) Scott Reef (1151 km north-east)		Lacepede Island (953 km north-east) Scott Reef – Sandy Islet (1,128 km north-east) Scott Reef (1,132 km north-east) Ashmore Reef (1,369 km north-east)	Legendre Island and Huay Island (310 km north-east) Dixon Island (313 km north-east) Delambre Island (321 km north-east) De Grey River area to Bedout Island (499 km north-east) North Turtle Island (519 km north-east) James Price Point (872 km north-east) Seringapatam Reef (1,198 km north-east)			
Hawksbill turtle	Barrow Island (132 km north-east) Lowendal Island Group (168 km north-east) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (177 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north-east)	Ningaloo coast and Jurabi coast (19 km north-east) Thevenard Island (79 km east) Barrow Island (132 km north-east) Lowendal Island Group (168 km north-east) Varanus Island (189 km north-east) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (177 km north-east) Montebello Islands, Trimouille Islands and Northwest Islands (178 km north-east) Ah Chong and South East Island (189 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north-east) Delambre Island (and other Dampier Archipelago Islands) (257 km north-east) Rosemary Island (272 km north-east) Delambre Island (321 km north-east) Scott Reef (1151 km north-east)	Lowendal Island Group (168 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north-east)	Ningaloo coast and Jurabi coast (Overlaps) Thevenard Island (59 km east) Barrow Island (113 km north-east) Lowendal Island Group (149 km north-east) Varanus Island (153 km north-east) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (157 km north-east) Montebello Islands, Trimouille Islands and Northwest Islands (159 km north-east) Ah Chong and South East Island (170 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (239 km north-east) Delambre Island (and other Dampier Archipelago Islands) (425 km north-east) Rosemary Island (253 km north-east) Delambre Island (303 km north-east) Scott Reef (1,132 km north-east) Ashmore Reef (1,369 km north-east)	String of islands between Cape Preston and Onslow, inshore of Barrow Island (118 km north-east) Shallow water coral reef and artificial reef habitat (132 km north-east) Lowendal Island Group (168 km north-east) Montebello Islands – Hermite Island, Northwest Island, Trimouille Island (177 km north-east) Dampier Archipelago (islands to the west of the Burrup Peninsula) (257 km north-east) Dixon Island (313 km north-east) Delambre Island (321 km north-east) De Grey River area to Bedout Is (321 km north-east)	No aggregation BIA identified within the EMBA	Dampier Archipelago (islands to the west of the Burrup Peninsula) (258 km north-east) (migration corridor)	No basking BIA identified within the EMBA
Loggerhead turtle	No mating BIA identified within the EMBA	Muiron Island (19 km south-east) Ningaloo coast and Jurabi coast (19 km south) Lowenthal Island (173 km north-east) Montebello Islands (178 km north-east) Gnarloo Bay (244 km south-west) Rosemary Island (272 km north-east) Cohen Island (301 km north-east)	No Internesting BIA identified within the EMBA	Ningaloo coast and Jurabi coast (overlaps) Muiron Island (overlaps) Dirk Hartog Island (425 km south-west) Lowenthal Island (154 km north-east) Montebello Islands (159 km north-east) Gnarloo Bay (225 km south-west) Rosemary Island (253 km north-east)	De Grey River area to Bedout Island (500 km north-east) James Price Point (872 km north-east)	No aggregation BIA identified within the EMBA	No migration BIA identified within the EMBA	No basking BIA identified within the EMBA

Species	BIAs ¹ within the EMBA and Approximate Distance to the Operational Area							
	Mating	Nesting	Internesting	Internesting Buffer	Foraging	Aggregation	Migration	Basking
		Dirk Hartog Island (444 km south-west)		Cohen Island (281 km north-east)				
Olive ridley turtle	No mating BIA identified within the EMBA	No nesting BIA identified within the EMBA	No internesting BIA identified within the EMBA	Cape Leveque (1027 km north-east Prior Point and Llanggi (1,200.3 km north-east) Darcy Island (1,222.1 km north-east) Vulcan Island (1,228.2 km north-east)	No foraging BIA identified within the EMBA	No aggregation BIA identified within the EMBA	No migration BIA identified within the EMBA	No basking BIA identified within the EMBA

BIA locations are described in the National Conservation Values Atlas.

Table 4-8: Habitat critical to the survival of marine turtles occurring within the EMBA

Species	Genetic stock	Nesting locations	Approximate distance and direction from Operational Area (km)	Inter-nesting buffer	Nesting period	Hatching period
Green turtle	NWS	Exmouth Gulf and Ningaloo coast	2.6 km south-east	20 km	Nov to Mar (peak: Dec to Feb)	Jan to May (peak: Feb to Mar)
		Barrow Island, Montebello Islands, Serrurier Island and Thevenard Island	14 km north-east			
		Dampier Archipelago	233.9 km north-east			
		Adele Island, Lacepede Islands	960.2 km north-east			
		Scott Reef	1,120.7 km north-east			
		Ashmore Reef and Cartier Reef	1,387.8 km north-east			
Loggerhead turtle	WA	Exmouth Gulf and Ningaloo coast	2.6 km south-east	20 km	Nov to Mar (peak: Jan)	Jan to May
		Gnaraloo Bay and beaches	214.1 km south-west			
		Shark Bay, all coastal and island beaches out to the northern tip of Dirk Hartog Island	429.1 km south-west			
Flatback turtle	Pilbara	Barrow Island, Montebello Islands, coastal islands from Cape Preston to Locker Island	Overlaps	60 km	Oct to Mar (peak: Nov to Jan)	Feb to Mar
		Dampier Archipelago, including Delambre Island and Huay Island	194.1 km north-east			
		Mundabullangana Beach	350.3 km north-east			
		Cemetery Beach, Port Hedland	426.8 km north-east			
		Eighty Mile Beach – coastal beach	566.6 km north-east			
		Eco Beach – coastal beach near Broome	839.9 km north-east			
		Lacepede Islands	920 km north-east			
Hawksbill turtle	WA	Cape Preston to mouth of Exmouth Gulf including Montebello Islands and Lowendal Islands	14 km north-east	20 km	All year (peak: Oct to Jan)	All year (peak: Dec to Feb)
		Dampier Archipelago, including Delambre Island and Rosemary Island	233.9 km north-east			
Olive ridley turtle	NWS	Cape Leveque	1,027 km north-east	20 km	Mar to Oct (peak: Aug)	May to Dec
		Prior Point and Llanggi	1,200.3 km north-east			
		Darcy Island	1,222.1 km north-east			
		Vulcan Island	1,228.2 km north-east			

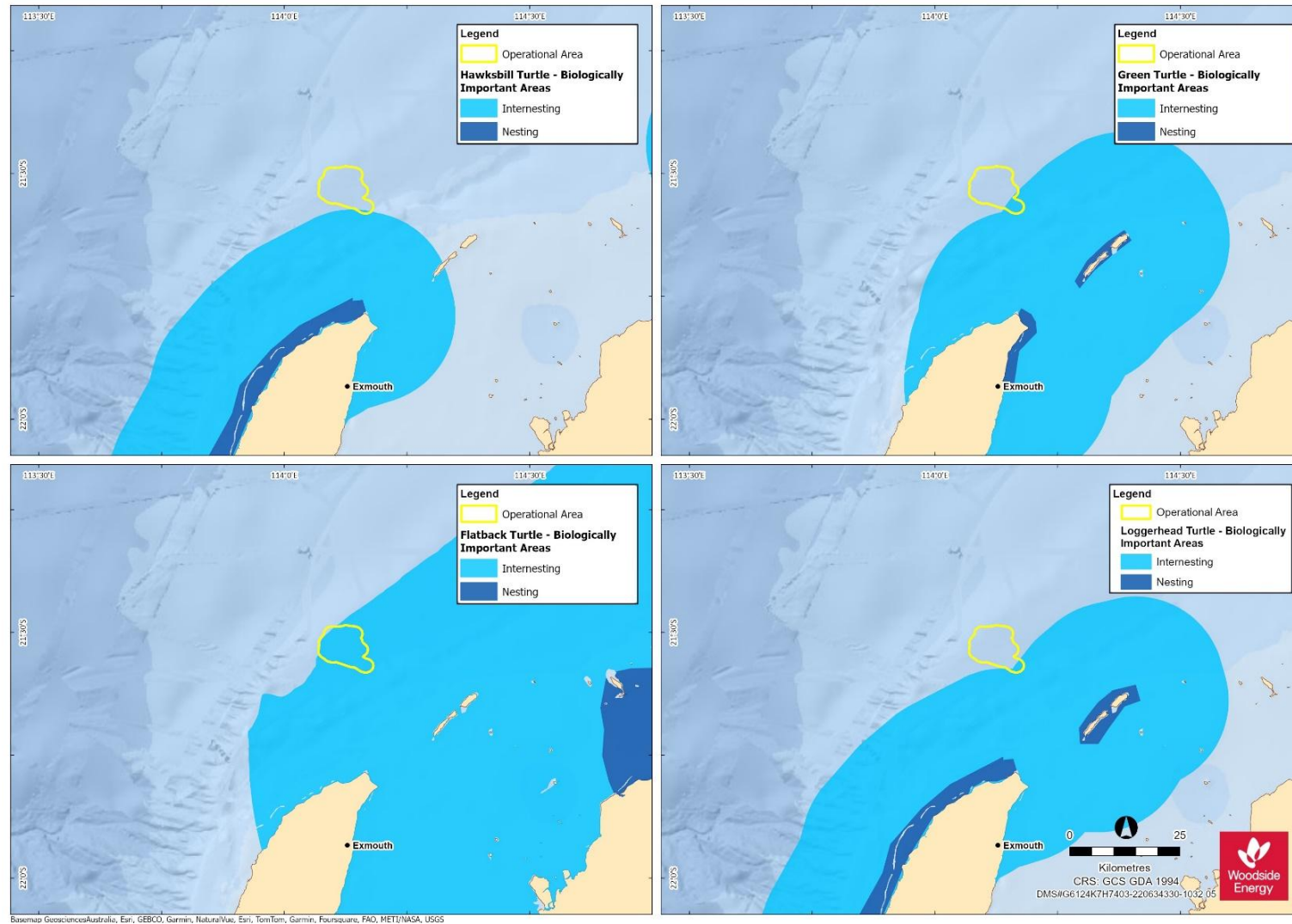


Figure 4-5: Marine turtle BIAs overlapping and adjacent to the Operational Area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

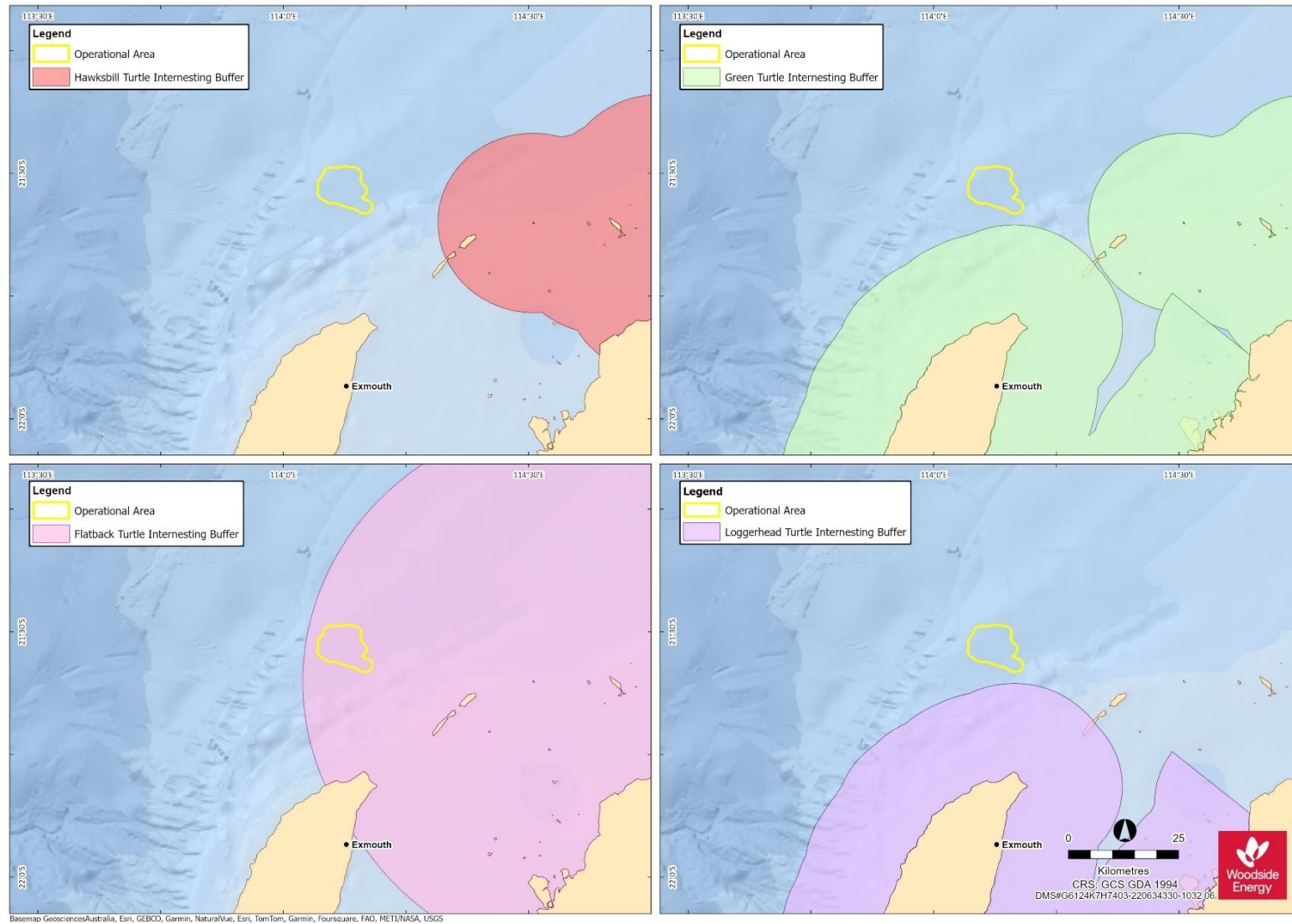


Figure 4-6: Habitat critical to the survival of marine turtles overlapping and adjacent to the Operational Area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

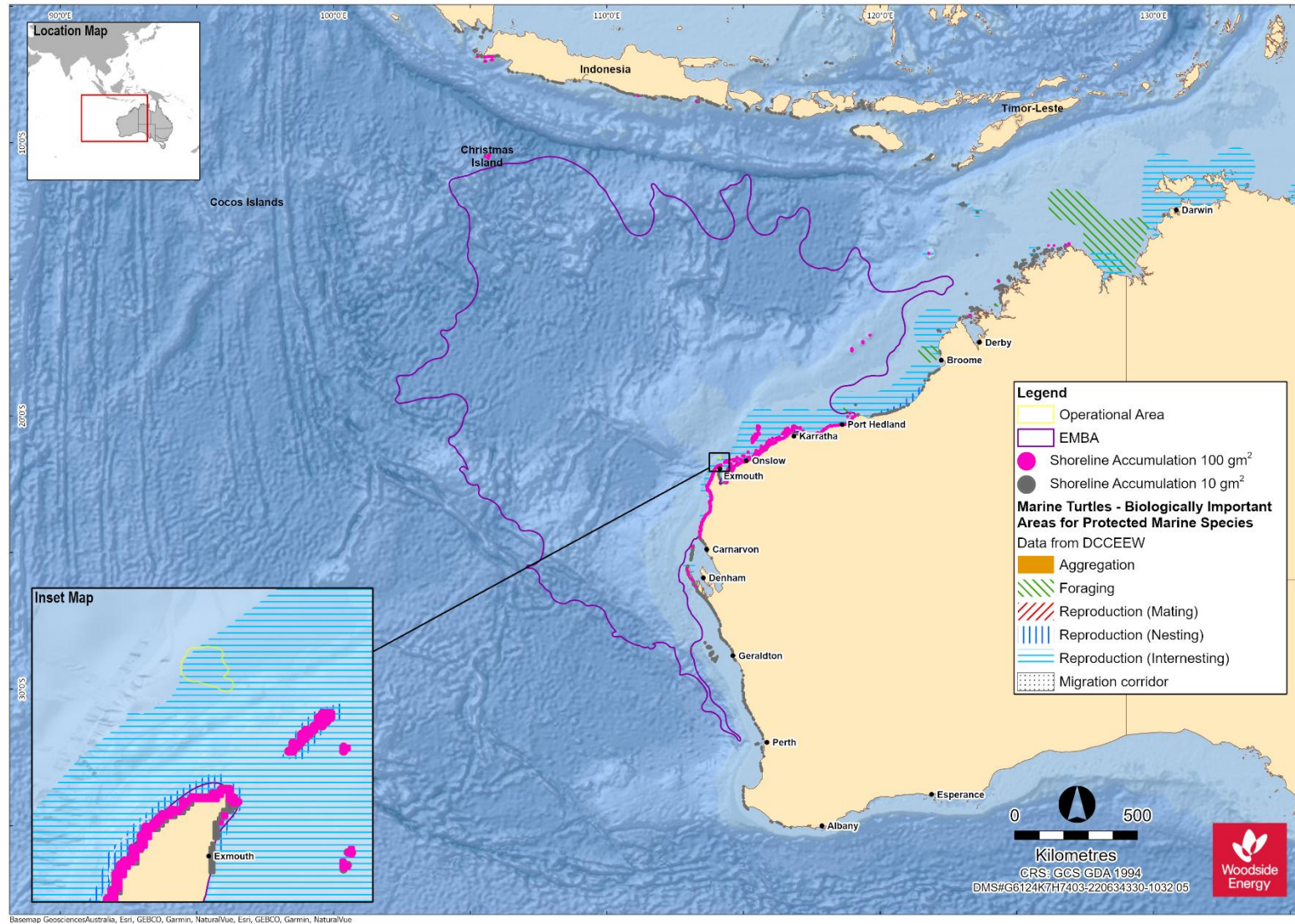


Figure 4-7: Marine turtle BIAs associated with the EMBA

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

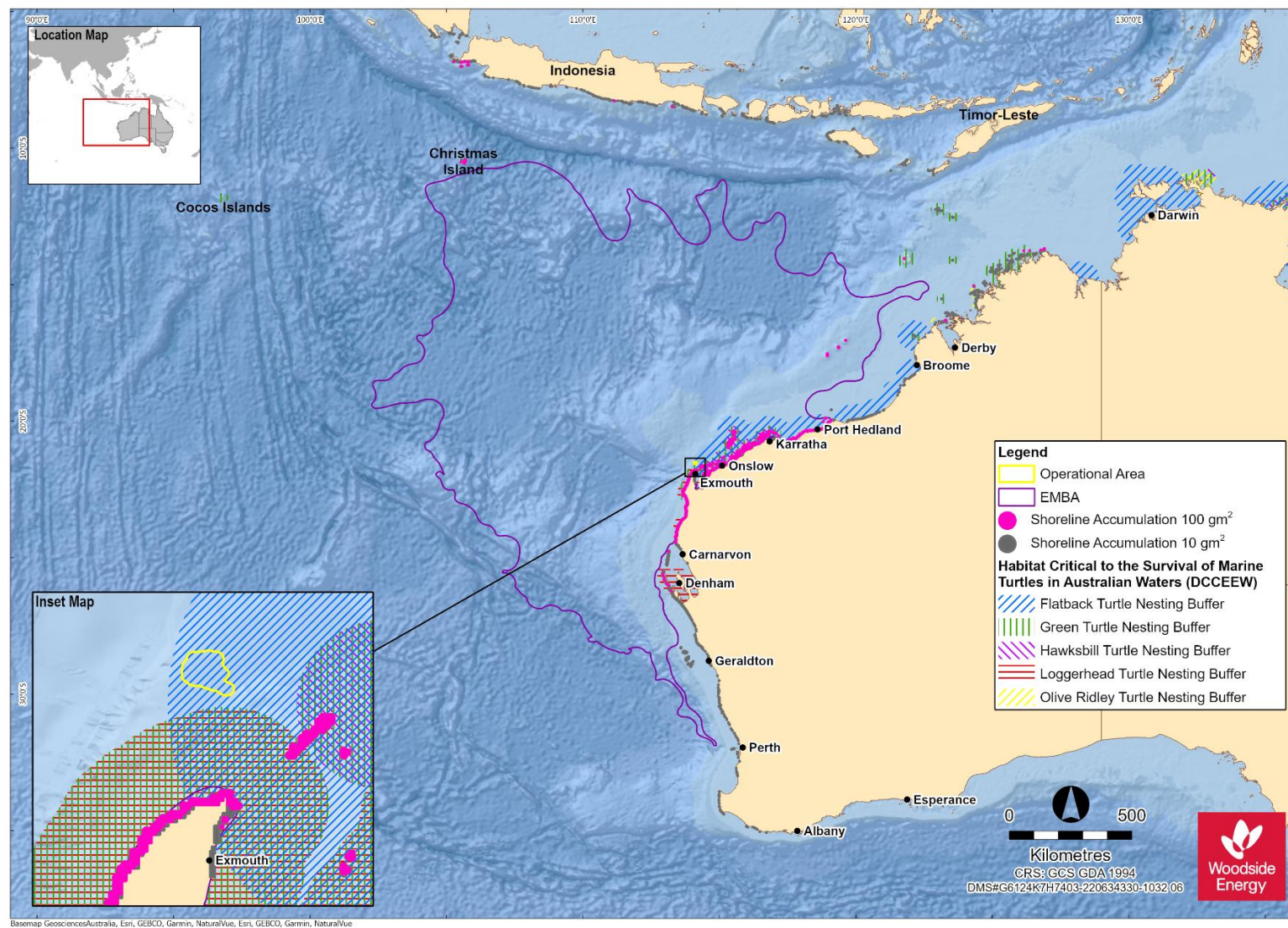


Figure 4-8: Marine turtle habitat critical associated with the EMBA

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.6.3 Marine mammals

A total of 17 EPBC Listed threatened and/or migratory marine mammal species have been identified to potentially occur within the Operational Area or EMBA. Six of these species are listed as threatened, and 13 listed migratory species. A further 26 mammal species were identified by the PMST. However, as they do not have a marine or migratory listing and they are not considered to inhabit shorelines, nor rely on the marine environment for their diet, they are not included in Table 4-9.

The Operational Area overlaps with the migration BIA for the humpback whale. The migration and foraging BIAs for the pygmy blue whale are further offshore (Figure 4-9), and the resting BIA for the humpback whale is located nearby in Exmouth Gulf (Figure 4-10). Four other species of marine mammal species have BIAs within the wider EMBA and are described in Table 4-10 including the southern right whale migration BIA and dugong BIA, both approximately 18 km from the Operational Area (Figure 4-10 and Figure 4-11). The southern right whale also has a gazetted habitat critical to survival relating to breeding which is 18 km from the Operational Area.

Table 4-9: Threatened and migratory marine mammal species predicted to occur within the Operational Area and EMBA

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Balaenoptera musculus</i>	Blue whale ¹	Endangered	Migratory	Species or species habitat likely to occur within area	Migration route known to occur Foraging, feeding or related behaviour known to occur within area
<i>Eubalaena australis</i>	Southern right whale	Endangered	Migratory	Species or species habitat likely to occur within area	Breeding known to occur within area
<i>Balaenoptera borealis</i>	Sei whale	Vulnerable	Migratory	Species or species habitat likely to occur within area	Foraging, feeding or related behaviour likely to occur within area
<i>Balaenoptera physalus</i>	Fin whale	Vulnerable	Migratory	Species or species habitat likely to occur within area	Foraging, feeding or related behaviour likely to occur within area
<i>Balaenoptera edeni</i>	Bryde's whale	N/A	Migratory	Species or species habitat likely occur within area	Species or species habitat likely occur within area
<i>Megaptera novaeangliae</i>	Humpback whale	N/A	Migratory	Species or species habitat known to occur within area	Breeding known to occur within area Foraging, feeding or related behaviour known to occur within area
<i>Orcinus orca</i>	Killer whale	N/A	Migratory	Species or species habitat may occur within area	Species or species habitat may occur within area
<i>Physeter macrocephalus</i>	Sperm whale	N/A	Migratory	Species or species habitat may occur within area	Foraging, feeding or related behaviour known to occur within area
<i>Tursiops aduncus</i> (Arafura/ Timor Sea populations)	Spotted bottlenose dolphin	N/A	Migratory	Species or species habitat known to occur within area	Species or species habitat known to occur within area
<i>Neophoca cinerea</i>	Australian sea-lion	Endangered	N/A	N/A	Breeding known to occur within area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Xeromys myoides</i>	Water Mouse, Yirrkoo	Vulnerable	N/A	N/A	Species or species habitat may occur within area
<i>Balaenoptera bonaerensis</i>	Antarctic minke whale	N/A	Migratory	N/A	Species or species habitat likely occur within area
<i>Caperea marginata</i>	Pygmy right whale	N/A	Migratory	N/A	Foraging, feeding or related behaviour likely to occur within area
<i>Dugong dugon</i>	Dugong	N/A	Migratory	N/A	Breeding known to occur within area
<i>Lagenorhynchus obscurus</i>	Dusky dolphin	N/A	Migratory	N/A	Species or species habitat likely occur within area
<i>Orcaella heinsohni</i>	Australian snubfin dolphin	Vulnerable	Migratory	N/A	Species or species habitat known to occur within area
<i>Sousa sahulensis</i>	Australian humpback dolphin	Vulnerable	Migratory	N/A	Species or species habitat known to occur within area

¹ Pygmy blue whale is the blue whale subspecies typically found in the NWS.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 4-10: Marine mammal BIAs within the Operational Area and the EMBA

Species	BIAs ¹ and approximate distances to the Operational Area						
	Resting	Foraging	Reproduction/ breeding	Migration	Calving	Nursing	Distribution/ significant habitat
Cetaceans							
Blue whale (subspecies: pygmy blue whale)	No resting BIA identified within the EMBA	Ningaloo (32 km south-west) Outer continental shelf from Cape Naturaliste to south of Jurien Bay (on migration) (1,023 km south) Scott Reef (1,063 km south) Outer Perth Canyon (high abundance) (1,103 km south) Perth Canyon (annual high use area) (1,136 km south) Head of Perth Canyon (high density) (1,136 km south)	No reproduction/ breeding BIA identified within the EMBA	Augusta to Derby (5 km north-west) Mandurah to south of Cape Naturaliste, seaward to the 50 m depth contour (1,221 km south) Indonesia- Banda Sea (159 km north-east [from Leti Island in the Leti Islands])	No calving BIA identified within the EMBA	No nursing BIA identified within the EMBA	The distribution BIA overlaps with the Operational Area
Humpback whale	Exmouth Gulf (24 km south-east) Shark Bay (332 km south-west) Kimberley/ Coastal North Lacepede Island, Camden	No foraging BIA identified within the EMBA	No reproduction/ breeding BIA identified within the EMBA	Corridor extends from the coast out to approximately 100 km offshore in the Kimberley region extending south to North West Cape (overlaps) (north and south)	Kimberley/Coastal North Lacepede Island, Camden Sound (984 km north-east)	Kimberley/Coastal North Lacepede Island, Camden Sound (984 km north-east)	No distribution/ significant habitat identified within the EMBA

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	BIAs ¹ and approximate distances to the Operational Area						
	Resting	Foraging	Reproduction/ breeding	Migration	Calving	Nursing	Distribution/ significant habitat
	Sound (983 km north-east)			West coast – Lancelin to Kalbarri (north and south) (713 km south) North of Houtman Abrolhos (678 km south-west) Houtman Abrolhos Islands (north and south) (713 km south) Cape Leeuwin to Houtman Abrolhos (north) (848 km south) Kimberley/Coastal North Lacepede Island, Camden Sound (983 km north-east) West coast – Bunbury to Lancelin including Rottneest Island (north and south) (1,051 km south) Cape Naturaliste (north and south) (1,303 km south) Cape Naturaliste to Cape Leeuwin (north and south) (1,342 km south) Flinders Bay (north) (1,414 km south)			

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	BIAs ¹ and approximate distances to the Operational Area						
	Resting	Foraging	Reproduction/ breeding	Migration	Calving	Nursing	Distribution/ significant habitat
				Esperance to Cape Leeuwin (north) (1,485 km south)			
Southern right Whale	No resting BIA identified within the EMBA	No foraging BIA identified within the EMBA	Ningaloo and Exmouth Gulf (18 km south-east) (habitat critical) Along the coasts from south of Mandurah to the WA and South Australian border (1,247 km south-east)	From the West Australian and South Australian border to Exmouth (18 km south-east)	No calving BIA identified within the EMBA	No nursing BIA identified within the EMBA	No distribution/ significant habitat identified within the EMBA
Sperm whale	No resting BIA identified within the EMBA	Western end of Perth canyon (1,121 km south-east) (high abundance) Albany Canyons – immediately south of the continental shelf edge extending over the continental slope, to include the area of the 'Albany Canyons' (high abundance) (1,499 km south-west)	No reproduction/ breeding BIA identified within the EMBA	No migration BIA identified within the EMBA	No calving BIA identified within the EMBA	No nursing BIA identified within the EMBA	No distribution/ significant habitat identified within the EMBA
Australian snubfin dolphin	No resting BIA identified within the EMBA	Roebuck Bay (929 km north-east) (high density prey) Willie Creek (high density prey) (937.7 km north-east)	Roebuck Bay (929 km north-east)	No migration BIA identified within the EMBA	Roebuck Bay (929 km north-east) Willie Creek (937.7 km north-east)	No nursing BIA identified within the EMBA	No distribution/ significant habitat identified within the EMBA

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	BIAs ¹ and approximate distances to the Operational Area						
	Resting	Foraging	Reproduction/ breeding	Migration	Calving	Nursing	Distribution/ significant habitat
Indo-Pacific humpback dolphin	No resting BIA identified within the EMBA	Roebuck Bay (929 km north-east) (high density prey) Willie Creek (high density prey) (937.7 km north-east)	Roebuck Bay (929 km north-east)	No migration BIA identified within the EMBA	Roebuck Bay (929 km north-east) Willie Creek (937.7 km north-east)	No nursing BIA identified within the EMBA	No distribution/ significant habitat identified within the EMBA
Indo-Pacific/ spotted bottlenose dolphin	No resting BIA identified within the EMBA	Roebuck Bay (929 km north-east)	Roebuck Bay (929 km north-east)	No migration BIA identified within the EMBA	Roebuck Bay (929 km north-east)	No nursing BIA identified within the EMBA	No distribution/ significant habitat identified within the EMBA
Pinniped							
Australian sealion	No resting BIA identified within the EMBA	Houtman Abrolhos Islands (739 km south-west) (male) Houtman Abrolhos Islands (male and female) (781 km south-west) Mid-west coast, includes Beagle Island, Fisherman Island, Jurien Bay, Cervantes and Buller Colonies (male) (788 km south) Mid-west coast, includes Beagle Island, Fisherman Island, Jurien Bay, Cervantes and Buller Colonies (male and female) (822 km south)	No reproduction/ Breeding BIA identified within the EMBA	No migration BIA identified within the EMBA	No calving BIA identified within the EMBA	No nursing BIA identified within the EMBA	No distribution/ significant habitat identified within the EMBA

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	BIAs ¹ and approximate distances to the Operational Area						
	Resting	Foraging	Reproduction/ breeding	Migration	Calving	Nursing	Distribution/ significant habitat
		Haul-Off rock (male) (1,503 km south-west) From Recherche Archipelago to Doubtful Islands – Key colonies, Kimberly Island, Glenny and Wickam Island (male and female) (1,486 km south-east)					
Sirenia							
Dugong	No Resting BIA identified within the EMBA	Exmouth Gulf (18 km south-east) (high density seagrass beds) Shark Bay – south passage (510 km south-west) Pilbara and Kimberley coast near James Price Point (921 km north-east) Roebuck Bay and Broome (920 km north-east) Ashmore Reef – Far West (1,387 km north-east)	Exmouth Gulf (18 km south-east) Ashmore Reef – Far West (1,387 km north-east)	Roebuck Bay and Broome (920 km north-east) (migration likely)	Exmouth Gulf (18 km south-east)	Exmouth Gulf (18 km south-east)	No distribution/ significant habitat identified within the EMBA

¹ BIA locations are described in the National Conservation Values Atlas.

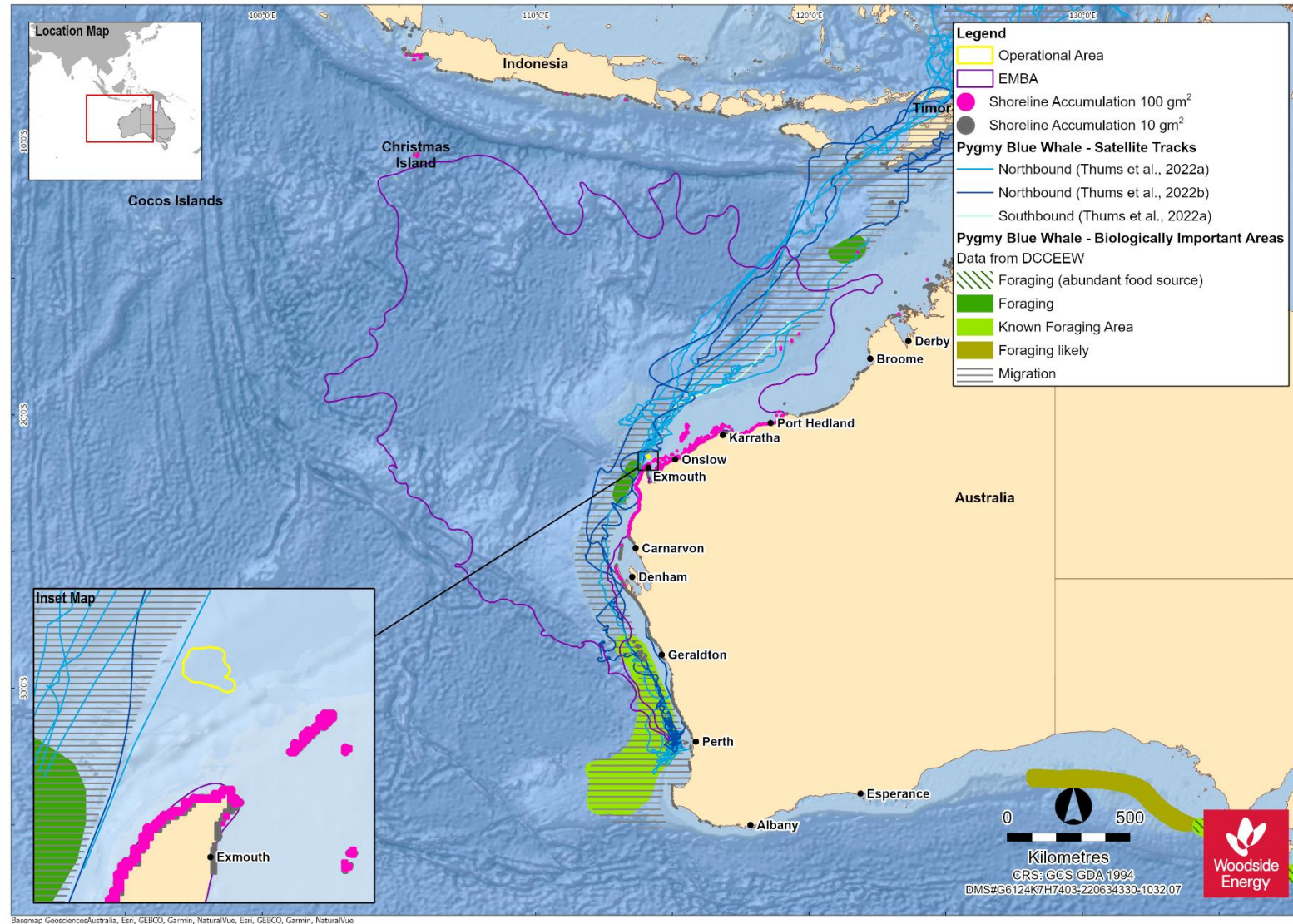


Figure 4-9: Pygmy blue whale BIAs and satellite tracks

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

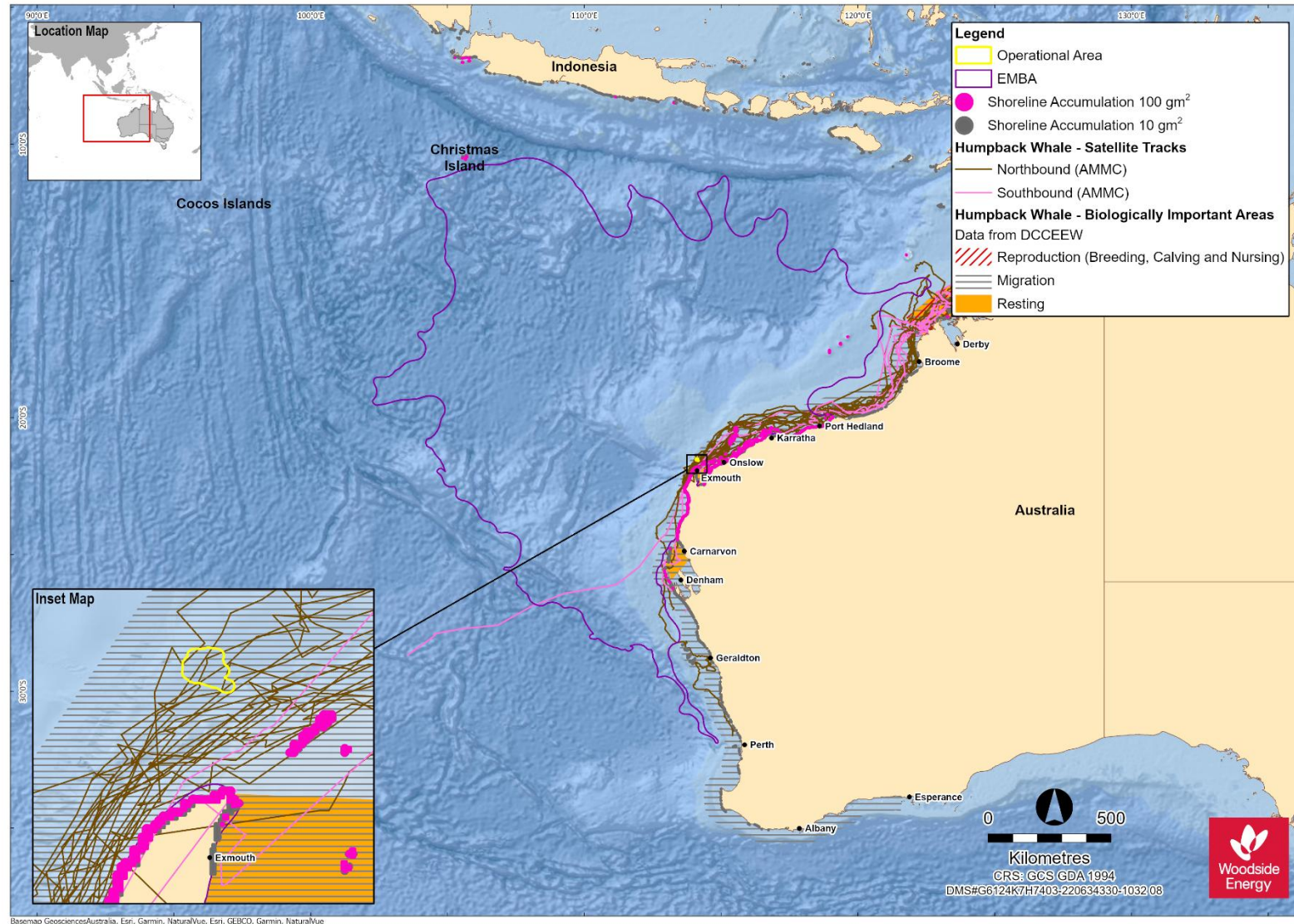


Figure 4-10: Humpback whale BIAs and satellite tracks

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

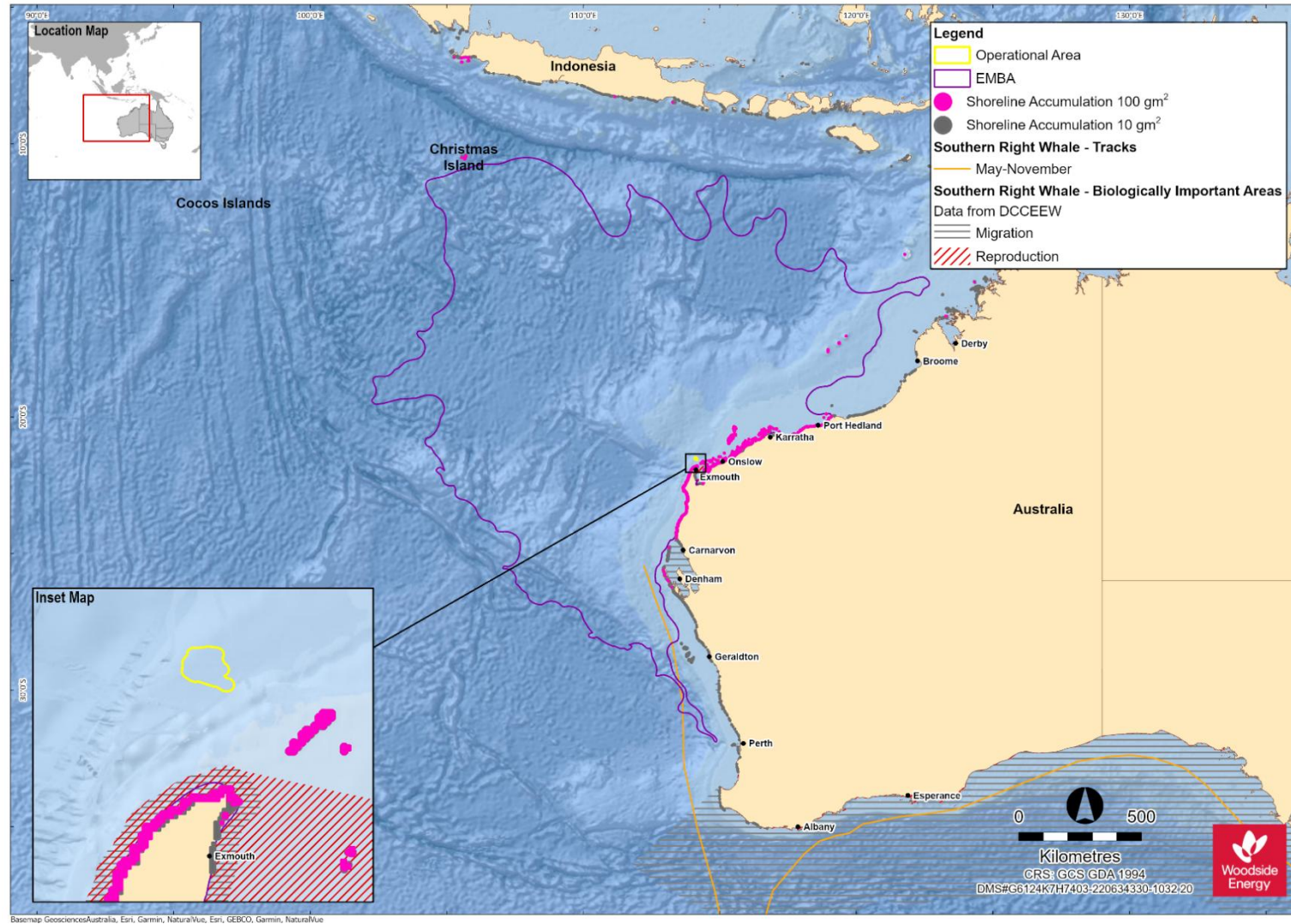


Figure 4-11: Southern right whale BIAs

Note: Habitat critical to the survival of the species listed in Table 4-10 aligns with the reproduction BIA shown in Figure 4-10.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

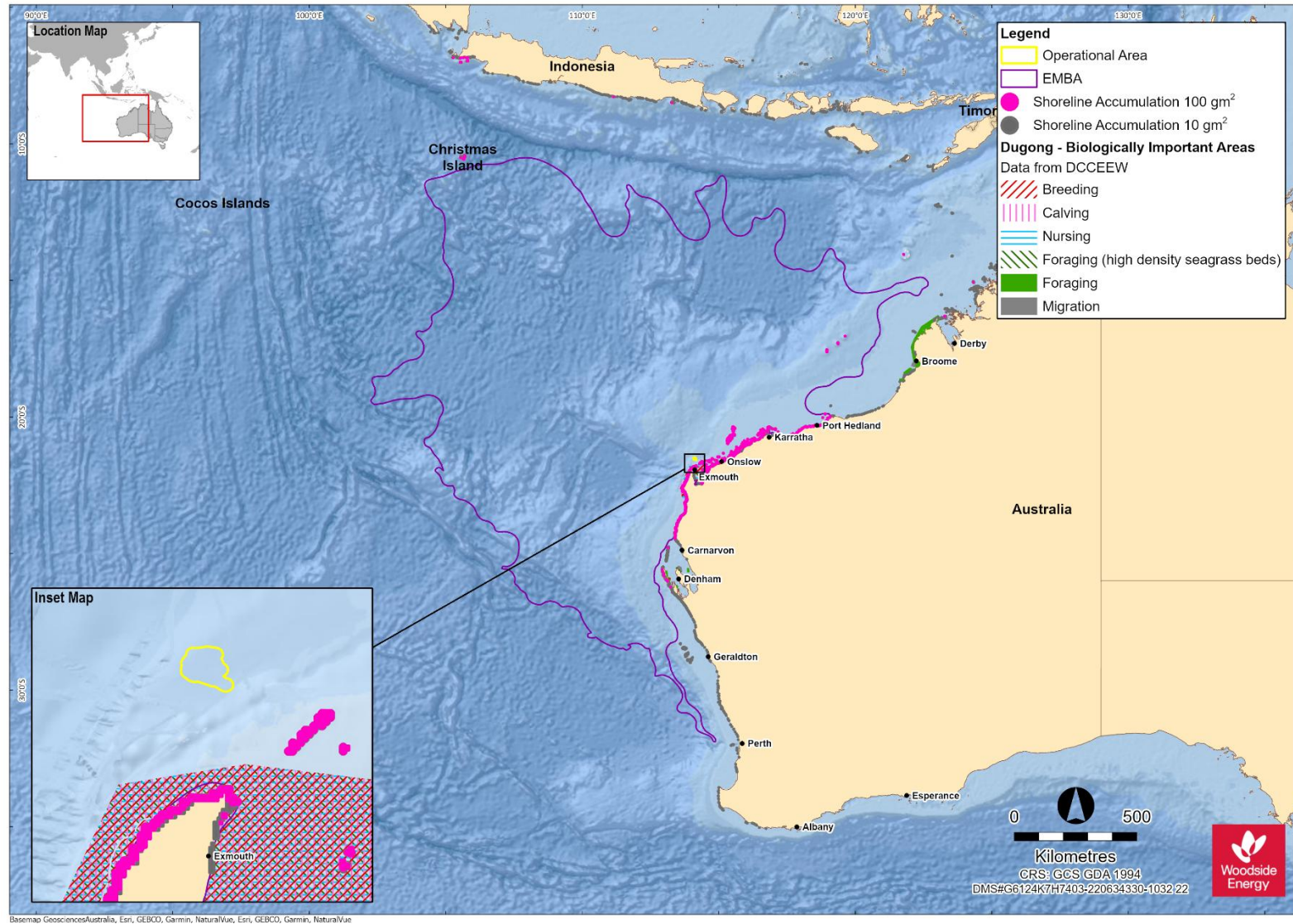


Figure 4-12: Dugong BIAs

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.6.4 Seabirds and migratory shorebirds

A total of 81 EPBC Listed threatened and/or migratory or seabird and shorebird species have been identified to potentially occur within the Operational Area or EMBA. 28 of these species are listed as threatened and 74 are listed as migratory species (Table 4-11).

The Operational Area overlaps the BIA (breeding) for the wedge-tailed shearwater, as shown in Figure 4-13. There are an additional 24 species with BIAs that are overlapped by the EMBA which are outlined in Table 4-12 and Figure 4-13.

Table 4-11: Threatened and migratory seabird and shorebird species predicted to occur within the Operational Area and EMBA

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Calidris ferruginea</i>	Curlew sandpiper	Critically Endangered	Migratory	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Numenius madagascariensis</i>	Eastern curlew	Critically Endangered	Migratory	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Calidris canutus</i>	Red knot	Endangered	Migratory	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Macronectes giganteus</i>	Southern-giant petrel	Endangered	Migratory	Species or species habitat may occur within area	Species or species habitat may occur within area
<i>Thalassarche carteri</i>	Indian yellow-nosed albatross	Vulnerable	Migratory	Species or species habitat may occur within area	Species or species habitat likely to occur within area
<i>Actitis hypoleucos</i>	Common sandpiper	N/A	Migratory	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Anous stolidus</i>	Common noddy	N/A	Migratory	Species or species habitat may occur within area	Breeding known to occur within area
<i>Ardenna carneipes</i>	Flesh-footed shearwater	N/A	Migratory	Species or species habitat may occur within area	Breeding known to occur within area
<i>Calidris acuminata</i>	Sharp-tailed sandpiper	N/A	Migratory	Species or species habitat may occur within area	Roosting known to occur within area
<i>Calidris melanotos</i>	Pectoral sandpiper	N/A	Migratory	Species or species habitat may occur within area	Species or species habitat known to occur within area
<i>Calonectris leucomelas</i>	Streaked shearwater	N/A	Migratory	Species or species habitat likely to occur within area	Species or species habitat known to occur within area
<i>Fregata ariel</i>	Lesser frigatebird	N/A	Migratory	Species or species habitat likely to occur within area	Breeding known to occur within area
<i>Phaethon lepturus</i>	White-tailed tropicbird	N/A	Migratory	Species or species habitat known to occur within area	Breeding known to occur within area
<i>Calidris tenuirostris</i>	Great knot	Critically Endangered	Migratory	N/A	Roosting known to occur within area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Charadrius mongolus</i>	Lesser sand plover	Endangered	Migratory	N/A	Roosting known to occur within area
<i>Diomedea amsterdamensis</i>	Amsterdam albatross	Endangered	Migratory	N/A	Species or species habitat likely to occur within area
<i>Diomedea dabbenena</i>	Tristan albatross	Endangered	Migratory	N/A	Species or species habitat likely to occur within area
<i>Diomedea sanfordi</i>	Northern royal albatross	Endangered	Migratory	N/A	Species or species habitat may occur within area
<i>Fregata andrewsi</i>	Christmas island frigatebird	Endangered	Migratory	N/A	Breeding known to occur within area. Foraging, feeding or related behaviour known to occur within area
<i>Thalassarche cauta</i>	Shy albatross	Endangered	Migratory	N/A	Foraging, feeding or related behaviour likely to occur within area
<i>Papasula abbotti</i>	Abbott's booby	Endangered	N/A	N/A	Species or species habitat known to occur within area
<i>Phaethon lepturus fulvus</i>	Christmas island white-tailed tropicbird	Endangered	N/A	N/A	Species or species habitat known to occur within area
<i>Rostratula australis</i>	Australian painted snipe	Endangered	N/A	N/A	Species or species habitat likely to occur within area
<i>Charadrius leschenaultii</i>	Greater sand plover	Vulnerable	Migratory	N/A	Species or species habitat known to occur within area
<i>Diomedea antipodensis</i>	Antipodean albatross	Vulnerable	Migratory	N/A	Foraging, feeding or related behaviour likely to occur within area
<i>Diomedea epomophora</i>	Southern royal albatross	Vulnerable	Migratory	N/A	Species or species habitat may occur within area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Diomedea exulans</i>	Wandering albatross	Vulnerable	Migratory	N/A	Foraging, feeding or related behaviour likely to occur within area
<i>Macronectes halli</i>	Northern giant petrel	Vulnerable	Migratory	N/A	Foraging, feeding or related behaviour likely to occur within area
<i>Phoebastria fusca</i>	Sooty albatross	Vulnerable	Migratory	N/A	Species or species habitat likely to occur within area
<i>Thalassarche impavida</i>	Campbell albatross	Vulnerable	Migratory	N/A	Species or species habitat may occur within area
<i>Thalassarche melanophrys</i>	Black-browed albatross	Vulnerable	Migratory	N/A	Foraging, feeding or related behaviour likely to occur within area
<i>Thalassarche steadi</i>	White-capped albatross	Vulnerable	Migratory	N/A	Species or species habitat may occur within area
<i>Anous tenuirostris melanops</i>	Australian lesser noddy	Vulnerable	N/A	N/A	Breeding known to occur within area
<i>Cereopsis novaehollandiae grisea</i>	Cape Barren goose (south-western)	Vulnerable	N/A	N/A	Species or species habitat known to occur within area
<i>Halobaena caerulea</i>	Blue petrel	Vulnerable	N/A	N/A	Species or species habitat may occur within area
<i>Pterodroma mollis</i>	Soft-plumage petrel	Vulnerable	N/A	N/A	Foraging, feeding or related behaviour known to occur within area
<i>Acrocephalus orientalis</i>	Oriental reed-warbler	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Apus pacificus</i>	Fork-tailed swift	N/A	Migratory	N/A	Species or species habitat likely to occur within area
<i>Ardenna grisea</i>	Sooty shearwater	N/A	Migratory	N/A	Species or species habitat may occur within area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Ardenna pacifica</i>	Wedge-tailed shearwater	N/A	Migratory	N/A	Breeding known to occur within area
<i>Ardenna tenuirostris</i>	Short-tailed shearwater	N/A	Migratory	N/A	Breeding known to occur within area
<i>Arenaria interpres</i>	Ruddy turnstone	N/A	Migratory	N/A	Roosting known to occur within area
<i>Calidris alba</i>	Sanderling	N/A	Migratory	N/A	Roosting known to occur within area
<i>Calidris ruficollis</i>	Red-necked stint	N/A	Migratory	N/A	Roosting known to occur within area
<i>Calidris subminuta</i>	Long-toed stint	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Cecropis daurica</i>	Red-rumped swallow	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Charadrius bicinctus</i>	Double-banded plover	N/A	Migratory	N/A	Roosting known to occur within area
<i>Charadrius veredus</i>	Oriental plover	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Cuculus optatus</i>	Oriental cuckoo	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Fregata minor</i>	Great frigatebird	N/A	Migratory	N/A	Breeding known to occur within area Foraging, feeding or related behaviour likely to occur within area
<i>Gallinago megala</i>	Swinhoe's snipe	N/A	Migratory	N/A	Roosting likely to occur within area
<i>Gallinago stenura</i>	Pin-tailed snipe	N/A	Migratory	N/A	Roosting likely to occur within area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Glareola maldivarum</i>	Oriental pratincole	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Hirundo rustica</i>	Barn swallow	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Hydroprogne caspia</i>	Caspian tern	N/A	Migratory	N/A	Breeding known to occur within area
<i>Limicola falcinellus</i>	Broad-billed sandpiper	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Limnodromus semipalmatus</i>	Asian dowitcher	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Limosa lapponica</i>	Bar-tailed godwit	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Limosa limosa</i>	Black-tailed godwit	N/A	Migratory	N/A	Roosting known to occur within area
<i>Motacilla cinerea</i>	Grey wagtail	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Motacilla flava</i>	Yellow wagtail	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Numenius minutus</i>	Little curlew	N/A	Migratory	N/A	Roosting likely to occur within area
<i>Numenius phaeopus</i>	Whimbrel	N/A	Migratory	N/A	Roosting known to occur within area
<i>Onychoprion anaethetus</i>	Bridled tern	N/A	Migratory	N/A	Breeding known to occur within area
<i>Pandion haliaetus</i>	Osprey	N/A	Migratory	N/A	Breeding known to occur within area
<i>Phaethon rubricauda</i>	Red-tailed tropicbird	N/A	Migratory	N/A	Breeding known to occur within area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Phalaropus lobatus</i>	Red-necked phalarope	N/A	Migratory	N/A	Roosting known to occur within area
<i>Pluvialis fulva</i>	Pacific golden plover	N/A	Migratory	N/A	Roosting known to occur within area
<i>Pluvialis squatarola</i>	Grey plover	N/A	Migratory	N/A	Roosting known to occur within area
<i>Sterna dougallii</i>	Roseate tern	N/A	Migratory	N/A	Breeding known to occur within area
<i>Sternula albifrons</i>	Little tern	Vulnerable	Migratory	N/A	Breeding known to occur within area
<i>Sula dactylatra</i>	Masked booby	N/A	Migratory	N/A	Breeding known to occur within area
<i>Sula leucogaster</i>	Brown booby	N/A	Migratory	N/A	Breeding known to occur within area
<i>Sula sula</i>	Red-footed booby	N/A	Migratory	N/A	Breeding known to occur within area
<i>Thalasseus bergii</i>	Greater crested tern	N/A	Migratory	N/A	Breeding known to occur within area
<i>Tringa brevipes</i>	Grey-tailed tattler	N/A	Migratory	N/A	Roosting known to occur within area
<i>Tringa glareola</i>	Wood sandpiper	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Tringa nebularia</i>	Common greenshank	N/A	Migratory	N/A	Species or species habitat known to occur within area
<i>Tringa stagnatilis</i>	Mash sandpiper	N/A	Migratory	N/A	Roosting known to occur within area
<i>Tringa tetanus</i>	Common redshank	N/A	Migratory	N/A	Roosting known to occur within area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species name	Common name	Threatened status	Migratory status	Potential for interaction	
				Operational Area	EMBA
<i>Xenus cinereus</i>	Terek sandpiper	N/A	Migratory	N/A	Roosting known to occur within area

Table 4-12: Seabird and shorebird BIAs within the Operational Area and EMBA

Species	BIAs ¹ and approximate distance to the Operational Area			
	Resting	Foraging	Breeding	Aggregation
Australian lesser noddy	No resting BIA identified within the EMBA	Houtman Abrolhos Islands (747 km south-west) (provisioning young)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA
Bridled tern	No resting BIA identified within the EMBA	West coast of WA and around to Recherche Archipelago including offshore waters (476 km south-west) (provisioning young)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA
Brown booby	No resting BIA identified within the EMBA	No foraging BIA identified within the EMBA	Kimberley and northern Pilbara coasts and islands also Ashmore Reef (507 km north-east)	No aggregation BIA identified within the EMBA
Caspian tern	No resting BIA identified within the EMBA	In WA found on most coasts, mainly islands (as far offshore as Adele, Bedout, Trimouille and the Houtman Abrolhos) and at Lake Argyle, Lake Gregory and Lake MacLeod; accidental elsewhere in the interior (679 km south-west) (provisioning young)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA
Common noddy	No resting BIA identified within the EMBA	Around Lancelin Islands (971 km south-east) Around Houtman Abrolhos Islands (provisioning young) (722 km south-west)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	BIAs ¹ and approximate distance to the Operational Area			
	Resting	Foraging	Breeding	Aggregation
Fairy tern	No resting BIA identified within the EMBA	Lower north-west coast (north to Dampier Archipelago), west coast (south to Peel Inlet) and south coast (from Flinders Bay east to Israelite Bay), including islands (as far offshore as Trimouille Island and Houtman Abrolhos Island) (714 km south-west)	Pilbara and Gascoyne coasts and islands (27 km south-west)	No aggregation BIA identified within the EMBA
Flesh-footed shearwater	No resting BIA identified within the EMBA	Cape Naturaliste to Eyre, 1 to 150 km offshore (1,330 km south-east (high abundance))	No breeding BIA identified within the EMBA	Cape Naturaliste to Eyre, 1 to 150 km offshore (1,159 km south-east)
Greater frigatebird	No resting BIA identified within the EMBA	No foraging BIA identified within the EMBA	Kimberley and Ashmore Reef (1,049 km north-east)	No aggregation BIA identified within the EMBA
Great-winged petrel	No resting BIA identified within the EMBA	Offshore south of Shark Bay, extending around south-west corner of WA and east past Kangaroo Island (1,302 km south-east) (provisioning young)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA
Indian yellow-nosed albatross	No resting BIA identified within the EMBA	Offshore waters of south-west marine region, north to Shark Bay and extending east into Bass Strait (1,417 km south-east) (provisioning young)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA
Lesser crested tern	No resting BIA identified within the EMBA	No foraging BIA identified within the EMBA	Kimberley, Pilbara and Gascoyne coasts and islands including Ashmore Reef (57 km north-east)	No aggregation BIA identified within the EMBA
Lesser frigatebird	No resting BIA identified within the EMBA	No foraging BIA identified within the EMBA	Kimberley and Pilbara coasts and islands also Ashmore Reef (451 km north-east)	No aggregation BIA identified within the EMBA
Little penguin	No resting BIA identified within the EMBA	Perth to Bunbury (1,160 km south-east) (provisioning young) South-west WA from Augusta to Twilight Cove (provisioning young) (1,414 km south-west)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	BIAs ¹ and approximate distance to the Operational Area			
	Resting	Foraging	Breeding	Aggregation
Little shearwater	No resting BIA identified within the EMBA	From Kalbarri to Eucla including offshore waters (629 km south-west)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA
Little tern	Kimberley, Pilbara and Gascoyne coasts and islands including Ashmore Reef (646 km north-east) Roebuck Bay Ramsar site (906 km north-east)	No foraging BIA identified within the EMBA	Kimberley, Pilbara and Gascoyne coasts and islands including Ashmore Reef (633 km north-east)	No aggregation BIA identified within the EMBA
Pacific gull	No resting BIA identified within the EMBA	West coast and islands from Point Quobba south to Wedge Island (688 km south-east) South coast and islands, west to Cape Leeuwin; common around Albany and Esperance and in the Recherche Archipelago (1,415 km south-west)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA
Red-footed booby	No resting BIA identified within the EMBA	No foraging BIA identified within the EMBA	North-west Kimberley and Ashmore Reef (1,049 km north-east)	No aggregation BIA identified within the EMBA
Roseate tern	Eighty Mile Beach (northern end) (801 km north-east)	North-western and west coasts and islands from Sir Graham Moore Island, south to Mandurah and as far offshore as Ashmore Reef, Bedout Island and the Houtman Abrolhos (717 km south-west) (provisioning young)	Kimberley, Pilbara and Gascoyne coasts and islands including Ashmore Reef (83 km north-east) North-east and North-west Twin Islets near the mouth of King Sound (1,074 km north-east) Low Rocks and Stern Island in Admiralty Gulf (1,464 km north-east)	No aggregation BIA identified within the EMBA
Short-tailed shearwater	No resting BIA identified within the EMBA	Found in the Recherche Archipelago and ranging west to the lower west coast north to 33°40'S (1,680 km south-east) (high abundance)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA
Soft-plumage petrel	No resting BIA identified within the EMBA	In WA found in seas north to 21°30'S (943 km south-east) (high abundance)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	BIAs ¹ and approximate distance to the Operational Area			
	Resting	Foraging	Breeding	Aggregation
Sooty tern	No resting BIA identified within the EMBA	Timor Sea south to 14°30', off north-west coast from Lacepede Island south-west to 117°E including Abrolhos, Fisherman and Lancelin islands (499 km south-west)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA
Wedge-tailed shearwater	No resting BIA identified within the EMBA	Ranging in western seas between 12°00'S and 33°20' (476 km south-west) (high abundance)	Kimberley, Pilbara and Gascoyne coasts and islands including Ashmore Reef (overlaps)	No aggregation BIA identified within the EMBA
White-faced storm petrel	No resting BIA identified within the EMBA	Offshore areas of the south-west marine region and into the adjacent south-east marine region and the north-west marine region to the north of Shark Bay (623 km south-west)	No breeding BIA identified within the EMBA	No aggregation BIA identified within the EMBA
White-tailed-tropic bird	No resting BIA identified within the EMBA	No foraging BIA identified within the EMBA	Kimberley, Pilbara and Gascoyne coasts and islands including Ashmore Reef (551 km north-east)	No aggregation BIA identified within the EMBA

¹ BIA locations are described in the National Conservation Values Atlas.

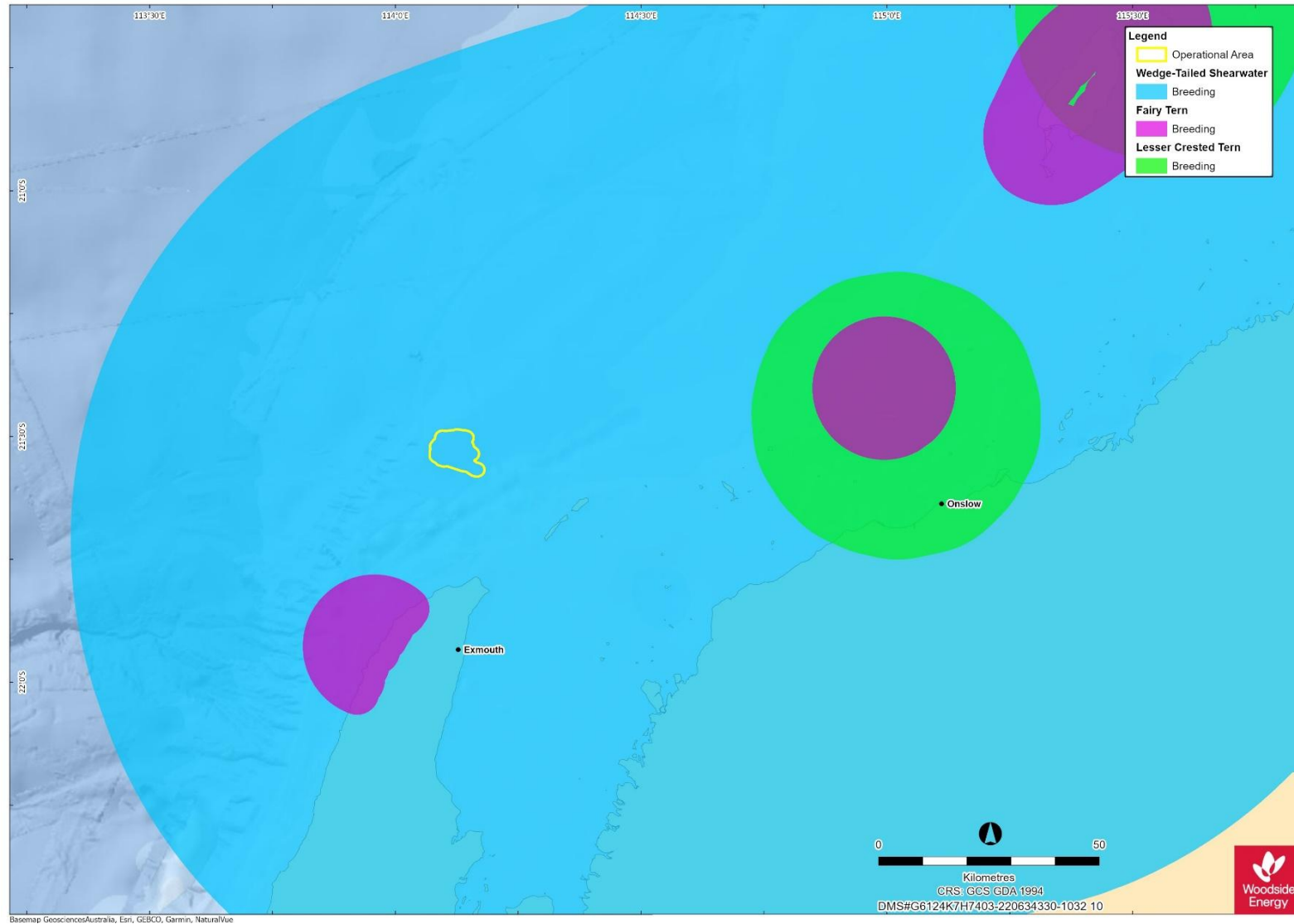


Figure 4-13: Seabird BIA's overlapping and adjacent to the Operational Area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

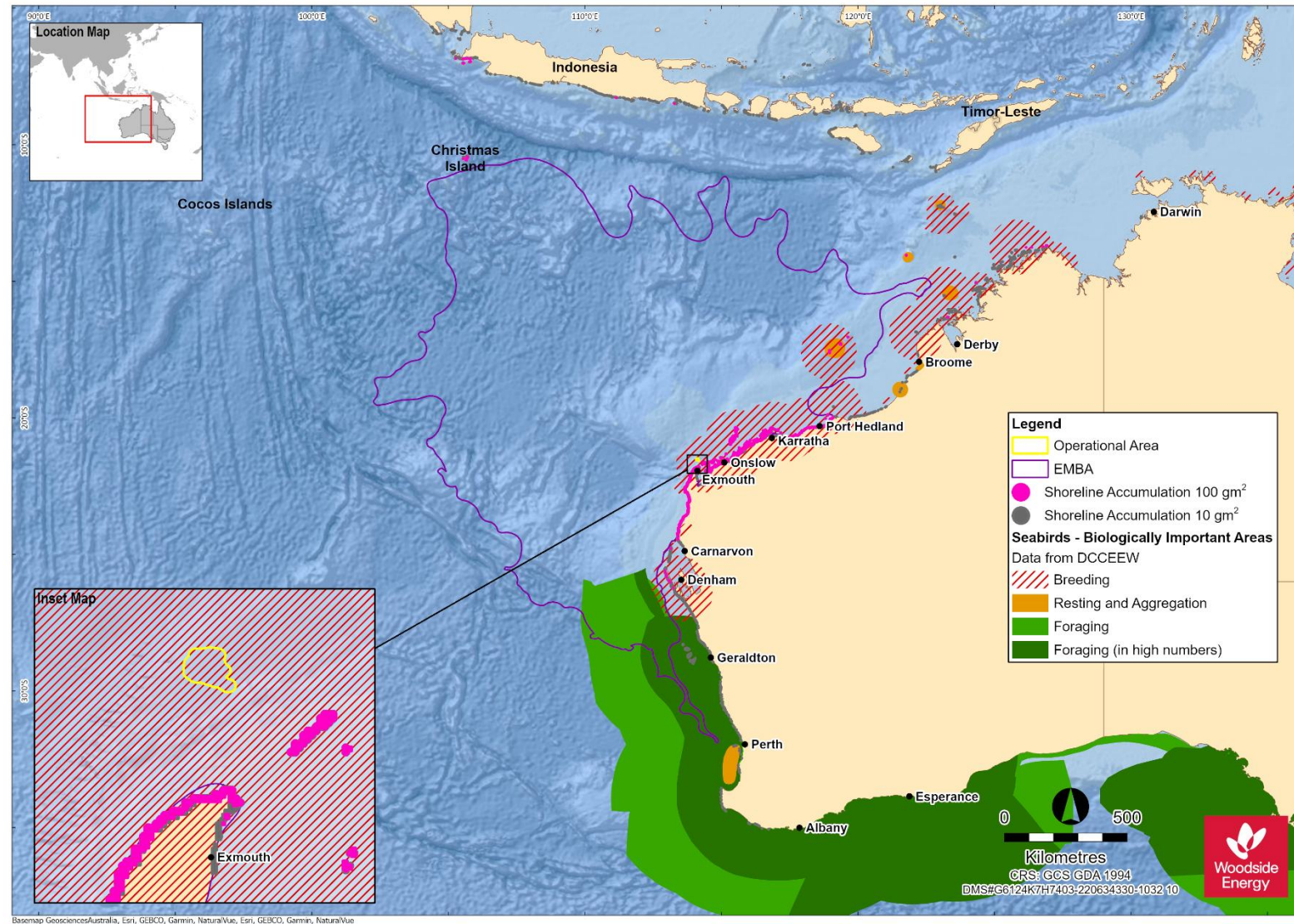


Figure 4-14: Seabird BIAs associated with the EMBA

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.6.5 Seasonal sensitivities for protected species

Seasonal sensitivities for EPBC listed threatened migratory species identified as potentially occurring within and around the Operational Area are identified in Table 4-13. Movement patterns of all protected species identified in Section 4.6 are described in Appendix J.

Table 4-13: Key seasonal sensitivities for EPBC listed threatened migratory species identified as occurring in or near the Operational Area

Species	January	February	March	April	May	June	July	August	September	October	November	December
Fish, sharks and rays												
Great white shark – northern migration (to North West Cape) (DSEWPac, 2013a)												
Whale shark – foraging (northward from Ningaloo)												
Whale shark – foraging (high-density prey, Ningaloo Reef)												
Marine reptiles¹												
Flatback turtle, Pilbara Coast genetic stock – nesting												
Flatback turtle, Pilbara Coast genetic stock – hatching												
Green turtle, NWS genetic stock – nesting												
Green turtle, NWS genetic stock – hatching												
Hawksbill turtle, WA genetic stock – nesting												
Hawksbill turtle, WA genetic stock – hatching												
Leatherback turtle – nesting												
Leatherback turtle – hatching												
Mammals												
East Indian Ocean pygmy blue whale – northern migration (Double et al., 2012; 2014)												
East Indian Ocean pygmy blue whale – southern migration (Double et al., 2012; 2014)												
Humpback whale – northern migration (Double et al., 2010; Threatened Species Scientific Committee (TSSC), 2015a)												
Humpback whale – southern migration (Double et al., 2010; TSSC, 2015a)												
Southern right whale – migration (Department of the Environment (DoE), 2023a)												
Southern right whale – breeding												
Seabirds and shorebirds												
Christmas Island frigatebird – nesting (Hill & Dunn, 2004)												
Curlew sandpiper – non-breeding season (NWMR) (DoE, 2015)												

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Eastern curlew – non-breeding (NWMR) (DoE, 2015d)												
Fairy tern – breeding (Commonwealth of Australia, 2020a)												
Indian yellow-nosed albatross – non-breeding season (Australia) (Agreement on the Conservation of Albatrosses and Petrels, 2012)												
Red knot – non-breeding season (NWMR) (TSSC, 2016a)												
Roseate tern – breeding (Commonwealth of Australia, 2012b)												
Southern giant petrel – non-breeding season (Australia) (DoE, 2023b)												
Wedge-tailed shearwater – breeding (Commonwealth of Australia, 2020d)												
	Species may be present in the Operational Area											
	Peak period. Presence of animals is reliable and predictable each year											

Information regarding seasonal occurrence of marine turtles has been taken from the Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017).

4.7 Key ecological features

Two KEFs overlap the Operational Area (Figure 4-15). KEFs within the Operational Area and EMBA are identified in Table 4-14 and described in Appendix J.

Table 4-14: Key ecological features within the Operational Area and EMBA

Key ecological feature	Approximate distance and direction from Operational Area (km)
Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula	Overlaps
Continental slope demersal fish communities	Overlaps
Ancient Coastline at 125 m depth contour	2.5 km south-east
Commonwealth waters adjacent to Ningaloo Reef	9.3 km south
Exmouth Plateau	81.7 km north-west
Glomar Shoals	321.1 km north-west
Western demersal slope and associated fish communities	476.2 km south-west
Wallaby Saddle	500.1 km south-west
Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	641.1 km north-east
Western Rock Lobster	679.3 km south
Ancient Coastline at 90 to 120 m depth	680.5 km south
Perth Canyon and adjacent shelf break, and other west coast canyons	707.4 km south
Commonwealth marine environment within and adjacent to the west coast inshore lagoons	719 km south
Commonwealth marine environment surrounding the Houtman Abrolhos Islands	721.2 km south
Canyons linking the Argo Abyssal Plain with the Scott Plateau	954.4 km north-east
Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	1,135.2 km north-east
Ashmore Reef and Cartier Island and surrounding Commonwealth waters	1,383.9 km north-east

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

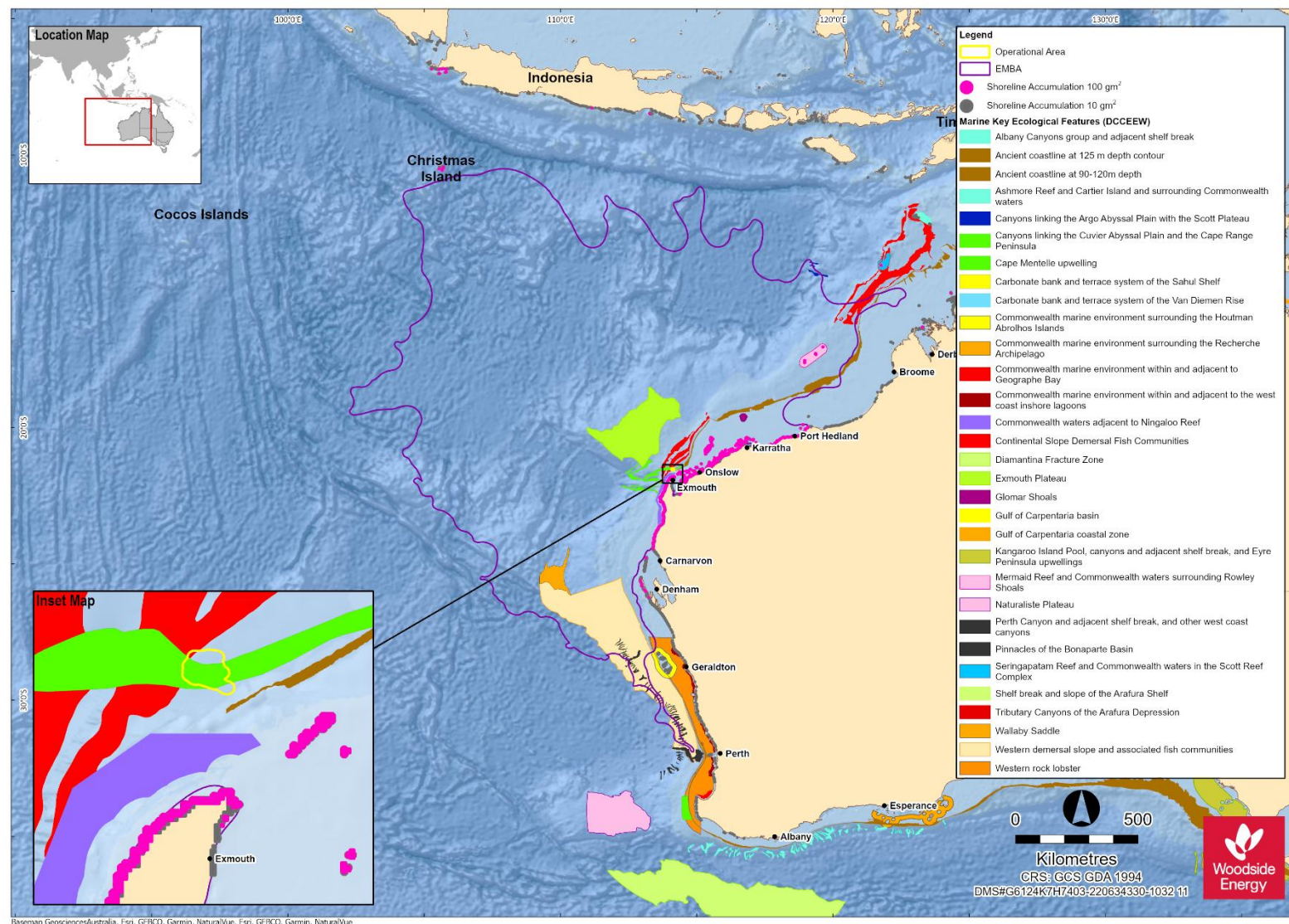


Figure 4-15: Key ecological features overlapping and adjacent to the Operational Area and EMBA

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.8 Protected places

No protected places overlap the Operational Area. Protected places within the EMBA are identified in Table 4-15 and presented in Figure 4-16. Appendix J, outlines the values and sensitivities of protected places and other sensitive areas in the EMBA.

Table 4-15: Established protected places and other sensitive areas overlapping the EMBA

	Distance and direction from Operational Area to protected place or sensitive area (km)	Park zone and IUCN category* overlapping Operational Area and/or EMBA
Commonwealth protected places		
AMPs		
Gascoyne Marine Park	7.7 km south-west	Special Purpose Zone – VI Recreational Use Zone – IV National Park – II
Ningaloo Marine Park	8.6 km south -east	National Park Zone – II Recreational Use Zone – IV
Montebello Marine Park	133.7 km south-east	Special Purpose Zone – VI
Dampier Marine Park	306.4 km north-east	Special Purpose Zone – VI Recreational Use Zone – IV National Park – II
Shark Bay Marine Park	314.7 km south-west	Special Purpose Zone – VI
Carnarvon Canyon Marine Park	319.1 km south-west	Habitat Protection Zone – IV
Argo-Rowley Terrace	472.7 km north-east	Special Purpose Zone – VI National Park – II
Eighty Mile Beach Marine Park	530.6 km north-east	Special Purpose Zone – VI
Abrolhos	570.6 km south-west	Special Purpose Zone – VI Recreational Use Zone – IV National Park – II
Mermaid Reef Marine Park	735.7 km north-east	National Park – II
Kimberley Marine Park	873.3 km north-east	Special Purpose Zone – VI Habitat Protection Zone – IV National Park – II
Roebuck Marine Park	902 km north-east	Special Purpose Zone – VI
Jurien Marine Park	952.5 km south-east	Special Purpose Zone – VI National Park – II
Ashmore Reef Marine Park	1,384.4 km north-east	Sanctuary Zone – Ia Recreational Use Zone – IV
Cartier Island Marine Park	1,405.4 km north-east	Sanctuary Zone – Ia
State marine protected areas		
Marine Parks		
Ningaloo Marine Park	12.2 km south-east	Sanctuary Zone – Ia Recreational Use Zone – IV Marine Park – II
Barrow Island Marine Park	140.3 km north-east	Sanctuary Zone – Ia

	Distance and direction from Operational Area to protected place or sensitive area (km)	Park zone and IUCN category* overlapping Operational Area and/or EMBA
Montebello Islands Marine Park	168.9 km north-east	Sanctuary Zone – Ia Recreational Use Zone – IV Special Purpose Zone – VI Marine Park – II
Montebello Islands Conservation Park	177.3 km north-east	Marine Park – II
Shark Bay Marine Park	387.7 km south-west	Marine Park – II Sanctuary Zone – Ia Special Purpose Zone – VI
Eighty Mile Beach Marine Park	574.2 km north-east	Special Purpose Zone – VI
Rowley Shoals Marine Park	648.9 km north-east	Sanctuary Zone – Ia Recreational Use Zone – IV Marine Park – II
Jurien Bay Marine Park	942.5 km south-east	Sanctuary Zone – Ia Special Purpose Zone – VI Marine Park – II
Marmion Marine Park	1,132.5 km south-east	Marine Park – II Sanctuary Zone – Ia Special Purpose Zone – VI
Lalang-Garram/Camden Sound Marine Park	1156 km north-east	Special Purpose Zone – VI
Shoalwater Islands Marine Park	1,190.9 km south-east	Special Purpose Zone – VI
North Lalang-Garrum Marine Park	1,269.3 km north-east	Special Purpose Zone – VI
North Kimberley Marine Park	1,302.6 km north-east	Special Purpose Zone – VI
Ngari Capes Marine Park	1,320.2 km south-east	Special Purpose Zone – VI
Marine management areas		
Muiron Islands Marine Management Area	10.4 km south-east	Special Purpose Zone – VI Sanctuary Zone – Ia
Barrow Island Marine Management Area	128.2 km north-east	Special Purpose Zone – VI
Nature Reserves		
Thevenard Island	77.5 km north-east	Sanctuary Zone – Ia
Great Sandy Island	130.4 km north-east	
Beagle Islands	913. km south-east	
Lipfert Milligan etc Islands	928.4 km south-east	
Fisherman Islands	949.5 km south-east	
Outer Rocks	984.2 km south-east	
Cervantes Islands	993.6 km south-east	
Buller Whittell and Green Islands	1,009.3 km south-east	
Scott Reef	1,139.7 km north-east	
Shoalwater Bay Islands	1,193.7 km south-east	

	Distance and direction from Operational Area to protected place or sensitive area (km)	Park zone and IUCN category* overlapping Operational Area and/or EMBA
Fish Habitat Protection Areas		
Point Quobba	328.9 km south-west	Recreational Use Zone – IV
Miaboolya Beach	348.4 km south-west	
Kalbarri Blue Holes	679.3 km south-east	
Abrolhos Islands	737.4 km south-west	
State Terrestrial Protected Areas		
Parks and Reserves		
Muiron Islands	16.1 km south-east	Sanctuary Zone – Ia
Victor Island	43.8 km south-east	
Y Island	46.1 km south-east	
Round Island	46.5 km south-east	
Serrurier Island	47 km south-east	
Bessieres Island	56.9 km north-east	
Locker Island	59.4 km south-east	
Whalebone Island	69.8 km south-east	
Airlie Island	102.5 km south-east	
Little Rocky Island	125.6 km north-east	
Boodie Double Middle Islands	132.6 km north-east	
Barrow Island	136.3 km north-east	
North Sandy Island	158 km north-east	
Lowendal Islands	169.4 km north-east	
Koks Island	362 km south-west	
Dirk Hartog Island	446.7 km south-west	
North Turtle Island	521.9 km north-east	
Bedout Island	554.5 km north-east	
Houtman Abrolhos Islands	745.6 km south-west	
Boullanger Whitlock Favourite Tern and Osprey Islands	970.1 km south-east	
Escape Island	972.1 km south-east	
Lacepede Islands	978.7 km north-east	
Wedge Island	1,028.6 km south	
Bald Island	1,534.9 km south-east	
Recherche Archipelago	1,678.5 km south-east	
Cape Range National Park	48.2 km south-east	National Park – II
Leeuwin-Naturaliste	1,408 km south-east	
Stokes	1,521.1 km south-east	
Montebello Islands	177.3 km north-east	Conservation Park – II
Bernier and Dorre Islands	362.6 km south-west	Nature Reserve – IV

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Distance and direction from Operational Area to protected place or sensitive area (km)	Park zone and IUCN category* overlapping Operational Area and/or EMBA
Rottne Island	1,158.4 km south-east	State Reserve – NAS
Threatened ecological communities		
Subtropical and temperate coastal saltmarsh	791.6 km south-east	N/A
Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula	924.1 km north-east	N/A
Banksia woodlands of the Swan Coastal Plain ecological community	947.8 km south-east	N/A
Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain ecological community	947.8 km south-east	N/A
Thrombolite (microbial) community of coastal freshwater lakes of the Swan Coastal Plain (Lake Richmond)	1,196.3 km south-east	N/A
Sedgelands in holocene dune swales of the southern Swan Coastal Plain	1,191.8 km south-east	N/A
Ramsar wetlands		
Eighty Mile Beach	603.1 km north-east	N/A
Roebuck Bay	904.2 km north-east	N/A
Becher Point Wetlands	1,204.3 km south-east	N/A
Peel-Yalgorup System	1,239.9 km south-east	N/A
Ashmore Reef National Nature Reserve	1,384.4 km north-east	N/A
Hosnies Spring	1,509.2 km north-west	N/A
The Dales	1,516.2 km north-west	N/A
Nationally important wetlands		
Cape Range Subterranean Waterways	22.1 km south-west	N/A
Exmouth Gulf East	55.3 km south-east	N/A
Leslie (Port Hedland) Saltfields	492.2 km north-east	N/A
Eighty Mile Beach System	575.6 km north-east	N/A
Shark Bay East	387.7 km south-west	N/A
Murchison River (low reaches)	678.3 km south-east	N/A
Hutt Lagoon System	723.7 km south-east	N/A
Mermaid Reef	748.3 km north-east	N/A
Roebuck Bay	908.2 km north-east	N/A
Willie Creek Wetlands	937.7 km north-east	N/A
Yalgorup Lakes System	1,274.3 km south-east	N/A
Vasse-Wonnerup Wetland System	1,334.4 km south-east	N/A
Rottne Island Lakes	1,160.5 km south-east	N/A
Swan-Canning Estuary	1,167 km south-east	N/A
Cape Leeuwin System	1,419.8 km south-east	N/A
Broke Inlet System	1,494.5 km south-east	N/A

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Distance and direction from Operational Area to protected place or sensitive area (km)	Park zone and IUCN category* overlapping Operational Area and/or EMBA
Hosine's Spring Christmas Island	1,509.7 km north-west	N/A
The Dales Christmas Island	1,517.9 km north-west	N/A
Pulu Keeling National Park	2,155.4 km north-west	N/A

**Conservation objectives for International Union for Conservation of Nature (IUCN) categories include:*

Ia: Strict Nature Reserve

Ib: Wilderness Area

II: National Park

III: Natural Monument or Feature

IV: Habitat/Species Management Area

V: Protected Landscape/Seascape

VI: Protected area with sustainable use of natural resources – allow human use but prohibits large scale development.

IUCN categories for the marine park are provided and, in brackets, the IUCN categories for specific zones within each Marine Park as assigned under the North-west Marine Parks Network Management Plan 2018 and South-west Marine Parks Network Management Plan 2018.

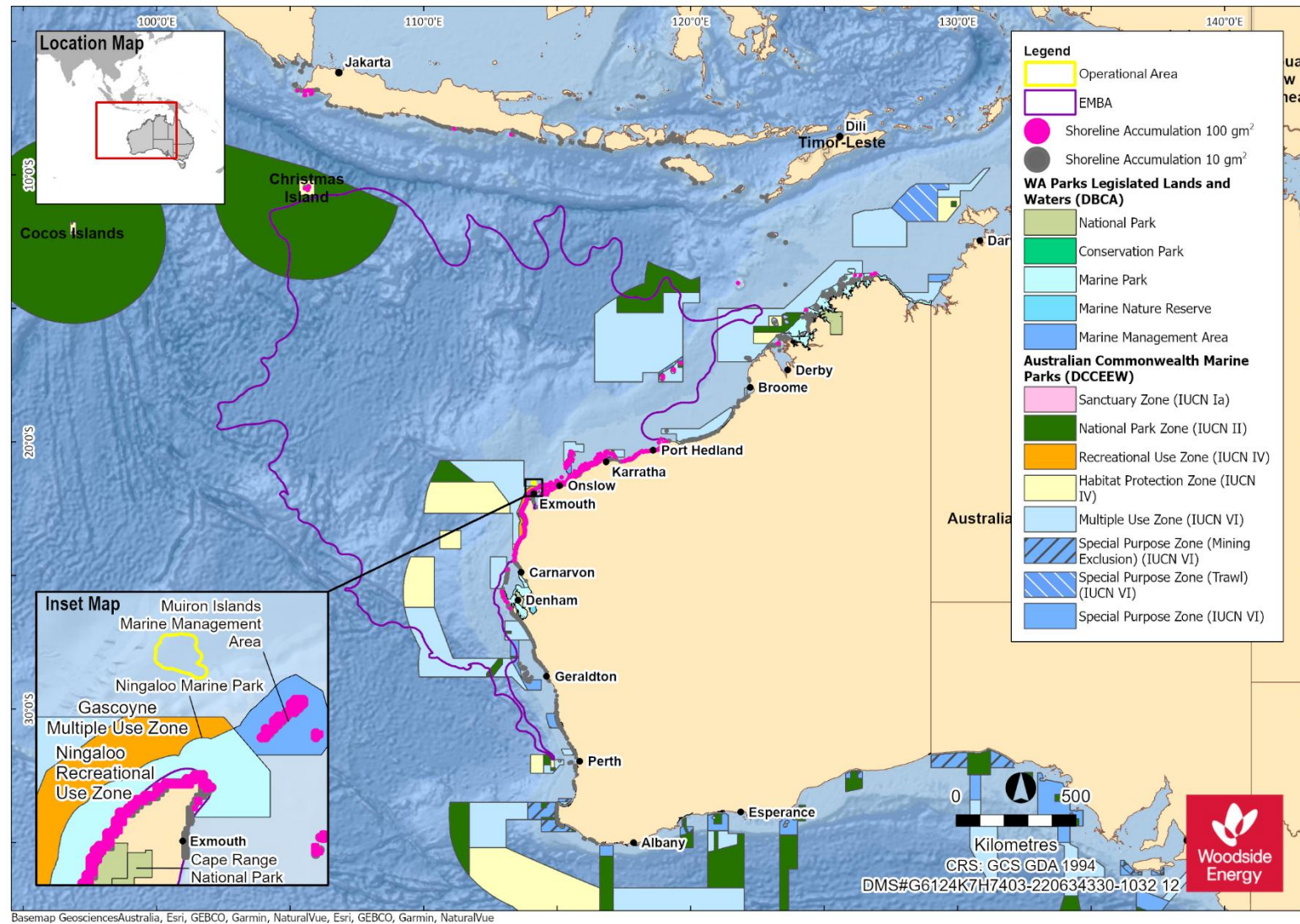


Figure 4-16: Protected areas adjacent to the Operational Area and EMBA

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.9 Cultural features and heritage values

4.9.1 Background

Woodside recognises the 'environment' for the purpose of the evaluation required under the Environment Regulations includes:

- the heritage value of places
- the social, economic and cultural features of the broader environment.

In this section, the heritage value of places within the Operational Area and EMBA and the cultural features of the Operational Area and EMBA are described.

In line with The Burra Charter: The Australia International Council on Monuments and Sites (ICOMOS) Charter for Places of Cultural Significance (ICOMOS, 2013) (Burra Charter) and associated practice notes, Woodside understands heritage value to refer to the cultural significance of a place to an individual or group. A cultural feature, by contrast, is understood to be comparable to the Burra Charter term "fabric" and refer to a place's elements, fixtures, contents and objects which have cultural values. Although these features are necessarily physical, the place they inhabit or comprise may have tangible and intangible dimensions (ICOMOS, 2013).

Woodside has undertaken heritage assessment to identify potential cultural values or features that may be impacted by the Petroleum Activity. This assessment has not identified heritage places, objects or values which will be impacted by the activities planned under this EP (discussed in Section 6.10). However, through consultation with relevant persons, Woodside recognises the spiritual and cultural connection to the environment² that First Nations people hold.

4.9.2 First Nations peoples

As a starting point for understanding cultural features of the environment for First Nations groups, Woodside uses the existing systems, such as native title, to identify First Nations groups that may have functions, interests or activities that may be affected. Woodside identifies native title representative bodies and nominated representative entities (defined in Section 5.3.2) as well as native title claims, determinations and Indigenous Land Use Agreements (ILUAs) which the EMBA overlaps. While acknowledging that cultural features and heritage values may exist outside of the native title framework, Woodside considers this to be the broadest extent over which First Nations groups have claimed native title rights and interests.

Native title claims are applications made to the Federal Court under the *Native Title Act 1993* (Cth) for a determination or decision about native title in a particular area. A claim is made by a native title claim group which asserts it holds native title rights and interests in an area of land and/or water, according to its traditional laws and customs. By making a claim, the native title claim group seeks a decision that native title exists so that its native title rights and interests are recognised by the common law of Australia. This is called a native title determination. A determination is a decision by a recognised body, such as the Federal Court or High Court of Australia, that native title either does or does not exist in relation to a particular area (Native Title Tribunal).

A requirement to establishing a positive determination of native title in court is proving that there is an organised society that occupied the land and/or waters at the time of British annexation. The requirement of an 'organised society' is set out by Justice Toohey in the historic judgment of *Mabo v Queensland (No 2)* [1992] HCA 23; (1992) 175 CLR 1 ('Mabo'). Justice Toohey had the following to say (at 187):

it is inconceivable that Indigenous inhabitants in occupation of land did not have a system by which land was utilised in a way determined by that society. There must, of course, be a society sufficiently organised to create and sustain rights and duties...

² 'Environment' in Regulation 5 of the Environment Regulations is defined as:

- ecosystems and their constituent parts, including people and communities
- natural and physical resources
- the qualities and characteristics of locations, places and areas
- the heritage values of places, and includes
- the social, economic and cultural features of the matters mentioned in paragraphs (a), (b), (c) and (d).

Therefore, Woodside understands that native title rights and interests are held communally by an organised society, that native title claims are understood to represent the area over which First Nations groups are claiming these rights and interests, and that native title determinations provide clarity on where native title rights and interests are found to either exist or not exist. Where native title rights or interests are determined to exist, they will be held by a Registered Native Title Body Corporate (section 57, *Native Title Act*) in trust or as agent for native title holders.

ILUAs are voluntary agreements between native title parties and other people or bodies about the use and management of land and/or waters and are registered by the Native Title Registrar in the Register of ILUAs. An ILUA can be made over areas where:

- native title has been determined to exist in at least part of the area, or
- a native title claim has been made, or
- where no native title claim has been made.

While registered, ILUAs operate as a contract between the parties, including relevant native title holders (Native Title Tribunal).

The *Native Title Act* also provides for a Representative Aboriginal/Torres Strait Islander Body (Native Title Representative Body) to be recognised by the Commonwealth Minister for an area. Native Title Representative Bodies have specialist functions set out in the *Native Title Act* within the area for which they are the Native Title Representative Body. However, the functions of a Native Title Representative Body are such that they do not hold details on the cultural features or heritage values of an area and therefore do not inform Woodside's understanding of heritage values or cultural features.

For the activity in this EP, there are no native title claims or determinations and no ILUAs overlapping the Operational Area; however, 26 native title claims and 44 ILUAs overlap the EMBA (see Figure 4-17). A summary of native title claims, determinations and ILUAs which are coastally adjacent to the EMBA is set out in Table 4-16. Claims and determinations have not been differentiated in this table, as it is acknowledged that either of these may indicate the existence of rights and interests.

4.9.2.1 Coastally adjacent First Nations groups

Woodside understands that First Nations groups are keenly aware of the extent of their rights, interests and responsibilities for Country, and these are generally discrete, defined areas, including areas of sea (Smyth, 2007). To identify cultural features and heritage values which may exist outside of native title claim, determination and ILUA areas, Woodside considers native title claims, determinations and ILUAs coastally adjacent to the EMBA to be an instructive means of identifying potentially relevant First Nations groups to be consulted (see Table 4-16).

Woodside understands from engagement with stakeholders that extending a native title group's responsibility to areas which those groups have elected to not include in their claims or ILUAs can have significant cultural consequences for First Nations groups and individuals. This may also, over time, build expectations in the broader First Nations community that a group is responsible for maintaining environmental values in areas for which they do not hold traditional knowledge. Woodside also acknowledges that a First Nations group's relative proximity to the Operational Area or EMBA is not necessarily a meaningful indicator of the connection of First Nations groups to the area, and providing advice over such areas can be culturally dangerous. As a result, caution must be used when conducting broader engagement.

A summary of native title claims, determinations and ILUAs overlapping or coastally adjacent to the EMBA is set out in Table 4-16. Claims and determinations have not been differentiated in this table, as it is acknowledged that either of these may indicate the existence of rights and interests.

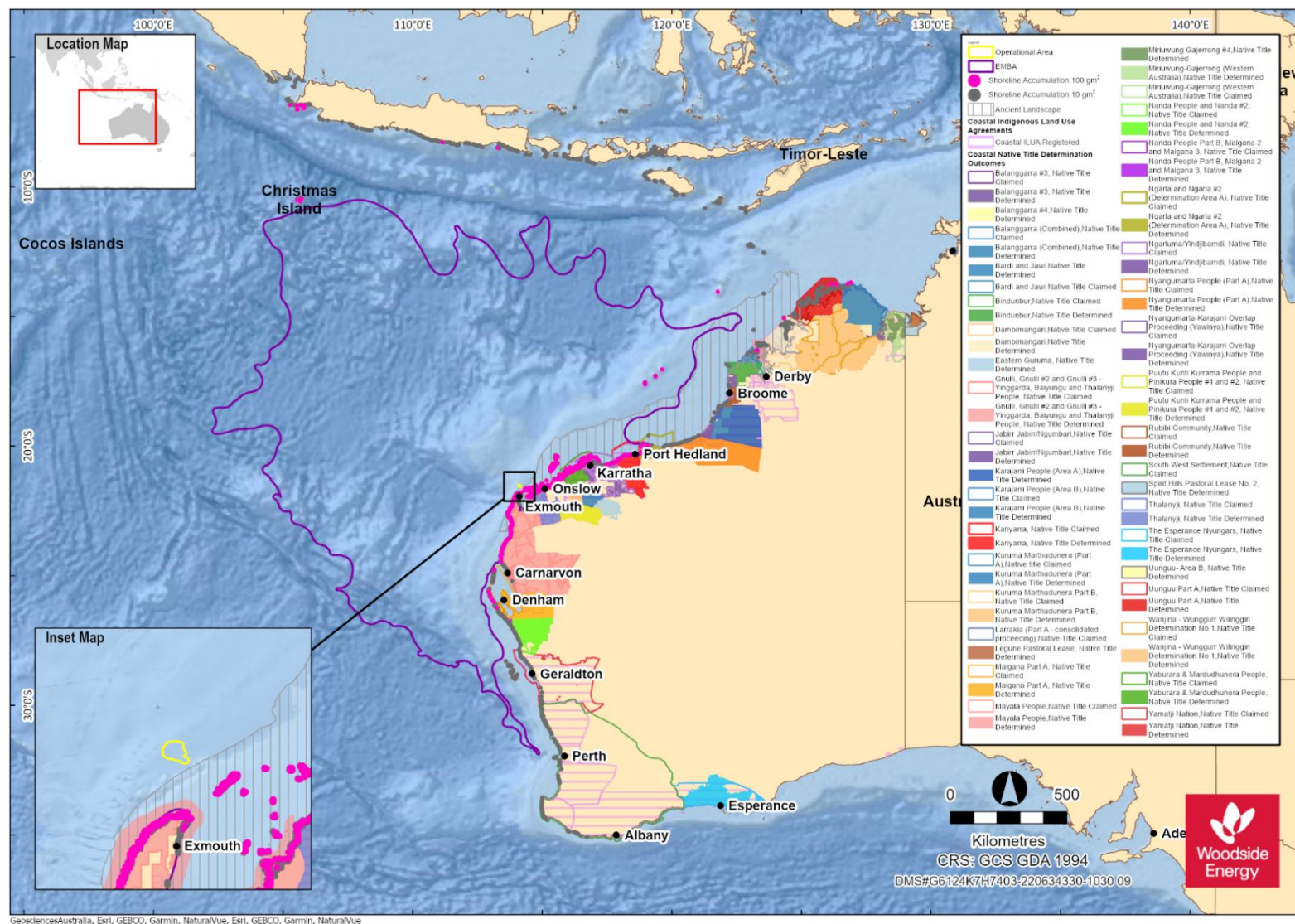


Figure 4-17: Operational Area and EMBA in relation to native title claims, determinations and Indigenous Land Use Agreements

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 4-16: Summary of native title claims, determinations and Indigenous Land Use Agreements that overlap or are coastally adjacent to the EMBA

Claim, determination, ILUA	Registered Native Title Body Corporate	Overlaps with EMBA	Coastally adjacent to EMBA
Claim/determination			
Balanggarra	Balanggarra Aboriginal Corporation	Yes	Yes
Bardi and Jawi	Bardi and Jawi Niimidiman Aboriginal Corporation	Yes	Yes
Bindunbur	Gogolanyngor Aboriginal Corporation, Nimanburr Aboriginal Corporation, Nyul Nyul PBC Aboriginal Corporation	No	Yes
Dambimangari	Wanjina-Wunggurr (Native Title) Aboriginal Corporation	No	Yes
Gnulli, Gnulli #2 and Gnulli #3 – Yinggarda, Baiyungu and Thalanyji People	Nganhurra Thanardi Garrbu Aboriginal Corporation, Yinggarda Aboriginal Corporation	Yes	Yes
Jabirr Jabirr/Ngumbarl	Gogolanyngor Aboriginal Corporation	Yes	Yes
Karajarri People (Area A)	Karajarri Traditional Lands Association (Aboriginal Corporation)	Yes	Yes
Karajarri People (Area B)	Karajarri Traditional Lands Association (Aboriginal Corporation)	Yes	Yes
Kariyarra	Kariyarra Aboriginal Corporation	Yes	Yes
Malgana Part A	Malgana Aboriginal Corporation	Yes	Yes
Mayala People	Mayala Inninalang Aboriginal Corporation	No	Yes
Nanda People and Nanda #2	Nanda Aboriginal Corporation	Yes	Yes
Nanda People Part B, Malgana #2 and Malgana 3	Malgana Aboriginal Corporation, Nanda Aboriginal Corporation	Yes	Yes
Ngarla and Ngarla #2 (Determination Area A)	Wanparta Aboriginal Corporation	Yes	Yes
Ngarluma People	Ngarluma Aboriginal Corporation (NAC)	Yes	Yes
Ngarluma/Yindjibarndi	Yindjibarndi Aboriginal Corporation, NAC	Yes	Yes
Nyangumarta People (Part A)	Nyangumarta Warrarn Aboriginal Corporation	Yes	Yes
Nyangumarta-Karajarri Overlap Proceeding (Yawinya)	Nyangumarta Karajarri Aboriginal Corporation	Yes	Yes
Rubibi Community	Yawuru Native Title Holders Aboriginal Corporation	Yes	Yes
South West Native Title Settlement	South West Aboriginal Land and Sea Council	Yes	Yes
Thalanyji	Buurabayji Thalanyji Aboriginal Corporation (BTAC)	Yes	Yes
Uunguu Part A	Wanjina-Wunggurr Aboriginal Corporation	Yes	Yes
Yaburara & Mardudhunera People	Wirrawandi Aboriginal Corporation	Yes	Yes
Yamatji Nation	Bundi Yamatji Aboriginal Corporation	Yes	Yes
ILUA			
Alinta-Kariyarra Electricity Infrastructure ILUA	No representative body specified.	Yes	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Claim, determination, ILUA	Registered Native Title Body Corporate	Overlaps with EMBA	Coastally adjacent to EMBA
Anketell Port, Infrastructure Corridor and Industrial Estates Agreement	Ngarluma Aboriginal Corporation	Yes	Yes
Ashburton Salt Project ILUA (Body Corporate Agreement)	BTAC	Yes	Yes
BAC KSCS ILUA	Balanggarra Aboriginal Corporation	Yes	Yes
Bardi Jawi Conservation Estate ILUA	Bardi and Jawi Niimidiman Aboriginal Corporation	Yes	Yes
Brickhouse and Yinggarda Aboriginal Corporation ILUA	Yinggarda Aboriginal Corporation	No	Yes
Cape Preston Project Deed (YM Mardie ILUA)	Wirrawandi Aboriginal Corporation	Yes	Yes
Cape Preston West Export Facility	Wirrawandi Aboriginal Corporation	Yes	Yes
Dambimangari Country Marine Park ILUA	Wanjina-Wunggurr (Native Title) Aboriginal Corporation, Dambimangari Aboriginal Corporation	Yes	Yes
Eco Beach ILUA	Yawuru Native Title Holders Aboriginal Corporation	Yes	Yes
FMG – Kariyarra Land Access ILUA	Kariyarra Aboriginal Corporation	Yes	Yes
Gnaala Karla Booja ILUA	Gnaala Karla Booja Aboriginal Corporation	Yes	Yes
Gnaraloo ILUA	Nganhurra Thanardi Garbu Aboriginal Corporation	Yes	Yes
Great Sandy Desert Project ILUA – Infrastructure	Karajarri Traditional Lands Association (Aboriginal Corporation)	Yes	Yes
Karajarri Traditional Lands Association KSCS Eighty Mile Beach ILUA	Karajarri Traditional Lands Association (Aboriginal Corporation)	Yes	Yes
Kariyarra and State ILUA	Kariyarra Aboriginal Corporation	Yes	Yes
KM & YM ILUA 2018	Wirrawandi Aboriginal Corporation, Robe River Kuruma Aboriginal Corporation	Yes	Yes
KTS Co-Existence ILUA	Dambimangari Aboriginal Corporation, Wanjina-Wunggurr (Native Title) Aboriginal Corporation Registered Native Title Body Corporate	Yes	Yes
Kuruma Marthudunera and Yaburara and Coastal Mardudhunera ILUA	Wirrawandi Aboriginal Corporation, Robe River Kuruma Aboriginal Corporation	Yes	Yes
Macedon ILUA	Buurabalayji Thalanyji Aboriginal Corporation	Yes	Yes
Malgana Tamala Pastoral Lease Agreement	Malgana Aboriginal Corporation	Yes	Yes
Malgana Aboriginal Corporation Conservation Estate ILUA	Malgana Aboriginal Corporation	Yes	Yes
Mayala Country Marine Park ILUA	Mayala Inninalang Aboriginal Corporation	Yes	Yes
Nanda Conservation Estate ILUA	Nanda Aboriginal Corporation	Yes	Yes
Ngarla Pastoral ILUA	Wanparta Aboriginal Corporation	Yes	Yes
Ngarla PBC KSCS ILUA	Wanparta Aboriginal Corporation	Yes	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Claim, determination, ILUA	Registered Native Title Body Corporate	Overlaps with EMBA	Coastally adjacent to EMBA
Ningaloo Conservation Estate ILUA	Nganhurra Thanardi Garrbu Aboriginal Corporation	Yes	Yes
NKAC KSCS Eighty Mile Beach ILUA	Nyangumarta Karajarri Aboriginal Corporation	Yes	Yes
Nyangumarta Karajarri and Anna Plains Station ILUA	Nyangumarta Karajarri Aboriginal Corporation	Yes	Yes
Nyangumarta Karajarri and Mandora Station ILUA	Nyangumarta Karajarri Aboriginal Corporation	Yes	Yes
Nyangumarta PBC KSCS ILUA	Nyangumarta Warrarn Aboriginal Corporation	Yes	Yes
Nyangumarta Warrarn Aboriginal Corporation & Mandora Pastoral Lease ILUA	Nyangumarta Warrarn Aboriginal Corporation	Yes	Yes
Nyangumarta Warrarn Aboriginal Corporation & Wallal Downs Pastoral Lease ILUA	Nyangumarta Warrarn Aboriginal Corporation	Yes	Yes
RTIO Kuruma Marthudunera People ILUA	Robe River Kuruma Aboriginal Corporation	Yes	Yes
RTIO Ngarluma ILUA (Body Corporate Agreement)	NAC	Yes	Yes
South West Boojarah #2 ILUA	Karri Karrak Aboriginal Corporation	Yes	Yes
Wagyl Kaip & Southern Noongar ILUA	Wagyl Kaip Southern Noongar Aboriginal Corporation	Yes	Yes
Whadjuk People ILUA	Whadjuk Aboriginal Corporation	Yes	Yes
Yamatji Nation Agreement	Bundi Yamatji Aboriginal Corporation	Yes	Yes
Yawuru Area Agreement ILUA	No representative body specified.	Yes	Yes
Yued ILUA	Yued Aboriginal Corporation	Yes	Yes
Quobba – Yinggarda Pastoral ILUA	Yinggarda Aboriginal Corporation	No	Yes
The Cockatoo Island Co-Existence ILUA	Wanjina-Wunggurr (Native Title) Aboriginal Corporation, Dambimangari Aboriginal Corporation	No	Yes
Yeeda Station and Nyikina Mangala ILUA	Walalakoo Aboriginal Corporation	No	Yes

4.9.3 Marine and national parks

Woodside acknowledges that Commonwealth and State marine park management plans have sought to recognise cultural values of First Nations groups. AMPs describe this framework in the following way: “*when making decisions about what can occur in marine parks and what action we will take to protect marine parks, we take values into account*”. AMP summarises these values as natural values, cultural values, heritage values and socio-economic values.

Woodside undertakes an assessment of cultural values within marine park management plans where the Operational Area or EMBA overlaps an AMP. Woodside considers the management plans of marine parks that overlap the Operational Area and EMBA to determine whether cultural features and heritage values have been identified and whether there are specified representative bodies referenced to contact regarding potential cultural features and heritage values:

- The Operational Area does not overlap any Commonwealth Marine Parks.
- The Operational Area does not overlap any State Marine Parks.

- The EMBA overlaps 17 AMPs managed under the South-West Marine Parks Network Management Plan 2018, North-West Marine Parks Network Management Plan 2018 and North Marine Parks Network Management Plan 2018.
- The EMBA overlaps 12 State Marine Parks.
- The EMBA overlaps the Christmas Island AMP for which management plans are still being developed. No First Nations groups or cultural values are identified for this AMPs in the respective values statements (DNP, 2022a; 2022b).

Where the plans for these marine parks specify identifiable representative bodies who may hold knowledge of heritage values or cultural features – including but not limited to Registered Native Title Bodies Corporate – these bodies are consulted. Consultation with these groups may identify heritage values and cultural features beyond those addressed in the marine park management plans. Where specified identifiable representative bodies for the AMPs overlapped by the EMBA are expressed in Table 4-17.

The marine park management plans did note across the various AMPs that Yamatji Marlpa Aboriginal Corporation (YMAC), Kimberley Land Council, South West Aboriginal Land and Sea Council (SWALSC) are the relevant Native Title Representative Bodies or Native Title Service Providers. YMAC and Kimberley Land Council were requested to identify Traditional Custodians who may hold knowledge of heritage values or cultural features (see Table 4-17). Woodside consults with relevant Regional Corporations formed under the South West Native Title Settlement (see Appendix F).

Table 4-17: Summary marine park management plans that overlap the EMBA

Marine Park Management Plan	Operational Area overlap	EMBA overlap	Specified bodies
Commonwealth Marine Park Management Plan			
Abrolhos AMP	No	Yes	No identifiable body specified
Argo-Rowley Terrace AMP	No	Yes	No identifiable body specified
Ashmore Reef AMP	No	Yes	No identifiable body specified
Carnarvon Canyon AMP	No	Yes	No identifiable body specified
Christmas Island AMP	No	Yes	No management plan
Dampier AMP	No	Yes	NAC, Yindjibarndi Aboriginal Corporation
Eighty Mile Beach AMP	No	Yes	Karajarri Traditional Lands Association, Nyangumarta Karajarri Aboriginal Corporation, Nyangumarta Warrarn Aboriginal Corporation, Wanparta Aboriginal Corporation
Gascoyne AMP	No	Yes	No identifiable body specified
Jurien AMP	No	Yes	No identifiable body specified
Kimberley AMP	No	Yes	Wunambal Gaambera Aboriginal Corporation, Bardi and Jawi Niimidiman Aboriginal Corporation
Mermaid Reef AMP	No	Yes	No identifiable body specified
Montebello AMP	No	Yes	No identifiable body specified
Ningaloo AMP	No	Yes	No identifiable body specified
Perth Canyon AMP	No	Yes	No identifiable body specified
Shark Bay AMP	No	Yes	No identifiable body specified
South-West Corner AMP	No	Yes	No identifiable body specified
Two Rocks AMP	No	Yes	No identifiable body specified

Marine Park Management Plan	Operational Area overlap	EMBA overlap	Specified bodies
State Marine Park Management Plan			
Barrow Island Marine Park	No	Yes	No identifiable body specified
Muiron Islands Marine Management Area	No	Yes	No identifiable body specified
Montebello Islands Marine Park	No	Yes	No identifiable body specified
Rowley Shoals Marine Park	No	Yes	No identifiable body specified
Shark Bay Marine Park	No	Yes	No identifiable body specified
Ngari Capes Marine Park	No	Yes	Karri Karrak Aboriginal Corporation (as the 'South West Boojarah Working Party')
Jurien Bay Marine Park	No	Yes	Yued Aboriginal Corporation (as the 'Yued clan native title claim')
Eighty Mile Beach Marine Park	No	Yes	Karajarri Traditional Lands Association, Nyangumarta Warrarn Aboriginal Corporation, Wanparta Aboriginal Corporation and Nyangumarta Karajarri Aboriginal Corporation
Marmion Marine Park	No	Yes	No identifiable body specified
Ningaloo Marine Park	No	Yes	Nganhurra Thanardi Garrbu Aboriginal Corporation
National parks			
Cape Range National Park	No	Yes	No identifiable body specified
Murujuga National Park	No	Yes	Murujuga Aboriginal Corporation (MAC)

4.9.4 Sea Country values

'Sea Country' can be defined as the area of sea over which a First Nations group has interests, cultural value, connection and use. It has been noted that *"the saltwater peoples of the north-west are associated with discrete clan estates or tribal areas, often referred to in contemporary Aboriginal English as 'Saltwater Country' or 'Sea Country'. 'Country' refers to more than just a geographical area: it is shorthand for all the values, places, resources, stories and cultural obligations associated with that geographical area."* (Smyth, 2007). "Sea Country is valued for Indigenous cultural identity, health and wellbeing" (DNP, 2018b). Cultural identity is understood to refer to the fact that *"essence of being a 'Saltwater' person is ontological rather than merely technological. That is, it is about how people relate spiritually to the sea and engage with spiritual forces that created it, the marine flora and fauna and people"* (McDonald & Phillips, 2021).

In terms of seascape extent, McNiven (2004) suggests that *"For those mainland groups whose exploitation of the sea was limited to littoral resources, it is likely that seascapes extended no more than c. 20 to 30 km out to sea, out to the horizon and the limit of human visibility...However, in some coastal places, clouds that can be seen well over 100 km out to sea are imbued with spiritual significance. For those groups with elaborate canoe technology, seascapes extend well over the horizon."* While there is some evidence of traditional watercraft in Australia's North-West, the recorded evidence is limited to travel across inland rivers (e.g. Barber & Jackson, 2011) or travel between coastal islands (Paterson et al., 2019).

Woodside recognises the potential for marine ecosystems to include cultural features as well as environmental values. The link between environmental protection and cultural heritage protection is illustrated in the Australian Government's Indigenous Protected Areas (IPAs) Program. The IPAs Program provides for *"areas of land and sea managed by Indigenous groups as protected areas for biodiversity conservation...IPAs deliver environmental benefits...Managing IPAs also helps Indigenous communities protect the cultural values of their Country for future generations..."* (Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2023). This intrinsic link concept is also described by MACas it relates to the values of the marine environment that are of cultural importance to MAC based on engagement with their Elders and Murujuga Land and Sea Unit Rangers. Elders were clear that all living

things in Mermaid Sound are connected and that Mermaid Sound and Dampier Archipelago (Murujuga) are considered one place where the entire environment and all ecosystems hold both cultural and environmental value, with these types of values (cultural and environmental) intrinsically linked (MAC, 2021 as cited in Woodside 2023a).

Cultural features of coastal areas may include marine species that may travel many thousands of kilometres through areas with similar cultural values to multiple First Nations language groups. Some species may travel as far as 5,000 km from Antarctica to the Kimberley region of WA (Double et al., 2010; 2012), passing First Nations language groups along the entire west coast of Australia. Distribution and migratory patterns of migratory species are described in Section 4.6 and Appendix J.

Sea Country values have been defined using multiple lines of evidence, including:

- desktop assessment of Sea Country values from publicly available sources
- specific studies including ethnographic surveys and archaeological heritage assessments
- consultation with First Nations groups and individuals.

The process for identifying First Nations groups who may have interests and connection in Sea Country are set out in Section 4.9.2.1 and Section 5. The scope of advice Traditional Custodians were encouraged to provide through project consultation was not limited by reference to any particular boundaries or limits of Sea Country.

4.9.4.1 Desktop assessment of Sea Country values

4.9.4.1.1 Cultural features and heritage values identified in publicly available literature

Publicly available sources were assessed for any records of previously identified Sea Country values or cultural features that may overlap with the EMBA or Operational Area. Where cultural features or Sea Country values were identified these are summarised in Table 4-18 according to the First Nations groups (where identified or inferable) who hold these values. Except where specific references are made to cultural values, these are considered to be addressed through the management of environmental values and are not summarised in this section.

Table 4-18: Cultural features and heritage values identified in publicly available literature

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
Bardi and Jawi	Feature: The offspring of Bardi and Jawi men inhabit the phenomenal world as incarnations of pre-existent spirit beings called ray or raya, which live in specific locations throughout Bardi and Jawi territory including waterholes, springs, trees and rocks on the land or in the sea.	Sampi on behalf of the Bardi and Jawi People v State of Western Australia [2010] FCAFC 26	No	Possible (unspecified)
	Feature: Mythologically important places.		Possible (unspecified)	Possible (unspecified)
	Feature: Resources including dugong, turtle and trochus shell.		No	Possible
	Value: Activities of mythological beings in the sea area.		Possible (unspecified)	Possible (unspecified)
	Value: Traditional knowledge of the sea and the features within.		Possible (unspecified)	Possible (unspecified)

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Value: The lands and seas and cultural forms and practices making up the body of customary Law were created and bequeathed via generations of human forebears by supernatural beings, inamunonjin, who had occupied and/or traversed the Dampier Peninsula-Buccaneer Archipelago region prior to direct human experience of the world.		Possible (unspecified)	Possible (unspecified)
	Value: The inamunonjin shaped features of the physical environment and imbued them with their eternal numinal essence. They named sites and set the boundaries of traditional territories and introduced the religious resources such as songs, dances, designs, objects, myths and rituals through which their activities would continue to be celebrated and affirmed. They instituted the basic rules of customs regulating social order.		No	Possible (unspecified)
	Value: The offspring of Bardi and Jawi men inhabit the phenomenal world as incarnations of pre-existent spirit beings called ray or raya which live in specific locations throughout Bardi and Jawi territory including waterholes, springs, trees and rocks on the land or in the sea.		No	Possible (unspecified)
	Value: Access to the sea around the coast of the mainland of the Dampier Peninsula and among the islands for hunting and fishing.		No	Possible
	Value: Access to the sea around the coast of the mainland of the Dampier Peninsula and among the islands for travelling.		No	Possible
	Value: Nobody may access Alarm Shoals as this includes a very significant sacred site and is a very dangerous spiritual place.		No	Possible
	Value: Lalariny, a rock feature in the vicinity of Thomas Bay, has a close association with a particular spiritual being and " <i>nobody should go there</i> "; people who do may be afflicted by a form of physical discomfort.		No	Possible
	Interest: Environmental characteristics of the sea.		Possible (unspecified)	Possible (unspecified)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
Gnulli (Baiyungu, Thalanyji, Yinggarda)	Feature: Resources including marine animals.	Peck on behalf of the Gnulli Native Title Claim Group v State of Western Australia [2019] FCA 2090	Possible (unspecified)	Possible (unspecified)
	Value: Traditional knowledge holds that ancestors live on the land and in the water. Therefore, people have obligations to access and care for these places (e.g. keeping them clean).		Possible (unspecified)	Possible (unspecified)
	Feature: Resources including mangrove crabs, gastropods, shellfish, dugong, turtle).	Morse, 1993	Possible (turtle; Section 4.6.3) No (other resources)	Possible (turtle; Section 4.6.3) No (other resources)
Jabirr Jabirr and Ngumbarl	Feature: Dreaming stories relating to inland areas associated with the headwaters of creeks running west through Jabirr Jabirr Country.	National Native Title Tribunal. Registration Test Decision. Rita Augustine & Ors v State of Western Australia (Jabirr Jabirr). NNTT number WC2013/007	No	No
	Feature: During Bugarrlgarra (the Dreaming), a snake travelled from Nurrugun (Carnot Bay) in Jabirr Jabirr Country down to Ngumbarl Country and across into Yawuru Country. When this snake crossed Willie Creek, he changed his name and his kinship group ("skin").		No	Possible
	Value: Sites along the coast point to protracted economic and spiritual use of the land and include artefact scatters, middens, burials and/or ceremonial sites, sites of mythological and historical significance, fish traps and gender-restricted sites.		No	Possible (unspecified)
	Value: Coastal areas used for hunting, fishing and camping.		No	Possible (unspecified)
	Value: Traditional knowledge of the 'changes in seasons which rests on the relationships between the living things within a particular area'.		No	Possible (unspecified)
Kariyarra	Value: Traditional knowledge recalls that a salt water serpent lives in the sea and brings fish to shore.	Zaunmayr, 2016	Possible (unspecified)	Possible (unspecified)
Malgana	Feature: Resources including bobtail, long-tail, kangaroo, emu, pinkgrey galah, mull-hawk, bird eggs (shags [cormorants], seagull, divers), turtle eggs, dugongs, turtle, mullet, bluebone, whiting, snapper, oysters, mussels, crabs, prawns, scallops, cockles, little 'redies', black snapper and mallee fowl.	Oxenham on behalf of the Malgana People v State of Western Australia [2018] FCA 1929	Possible (unspecified)	Possible (unspecified)

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Value: Access to Country.		No	Possible (unspecified)
	Feature: Resources including dugong, green and loggerhead turtles and sharks.	Statton et al., 2021	Possible (unspecified)	Possible (unspecified)
	Value: Traditional knowledge maintains records of freshwater seeps in the submerged landscape.		Possible (unspecified)	Possible (unspecified)
	Feature: Resources including fish, shellfish, turtles and dugong.	Briggs & Green, 2008	Possible (unspecified)	Possible (unspecified)
	Feature: Archaeological sites.		No	Possible
	Feature: Green sea turtles, dugongs, shags and bottlenose dolphins are species of cultural significance.	Malgana Land and Sea Management et al., 2021	No	Possible
	Value: Sharing and controlling the sharing of knowledge.	Lyons et al., 2021	Possible (unspecified)	Possible (unspecified)
Nanda	Value: Access to Country resulting in physical and mental health.	Drury on behalf of the Nanda People v State of Western Australia [2018] FCA 1849	No	Possible (unspecified)
	Value: Water serpents must not be disturbed in pools.		No	No
	Value: Traditional knowledge recalls that a water serpent swam down the Murchison River towards the sound of the ocean's waves and created a tunnel to the sea. Scared by the waves, the serpent swam back up the Murchison.	Kalbarri Visitor Centre, 2023	No	No
	Value: Traditional knowledge recalls that the turtle used to live on the land, but became trapped in the sea due to its greed for berries in the water.	Capewell, 2020	Possible	Possible
	Value: Traditional knowledge recalls that creation ancestors danced at the mouth of the river at Kalbarri and established the Law.	Murdock, 2010	No	Possible (unspecified)
Ngarda-Ngarli (Mardudhunera, Ngarluma, Wong-Goo-Tt-Oo, Yaburara and/or Yindjibarndi)	Feature: Archaeological sites on Murujuga.	Department of the Environment and Heritage, 2006	No	Possible (submerged)
	Feature: Ceremonial sites.		No	No
	Feature: Dreaming sites.		Possible (unspecified)	Possible (unspecified)
	Value: Traditional knowledge recalls that the sea is a source of creation for flying foxes.	Department of Environment and Conservation, 2013	Possible (unspecified)	Possible (unspecified)
	Value: Petroglyphs are understood as permanent signs left by ancestral beings.		No	Possible (submerged)

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Value: Petroglyphs depict the Law.		No	Possible (submerged)
	Value: Cultural obligations to look after places of special potency.		Possible (unspecified) – unlikely given distance offshore	Possible (unspecified) – unlikely given distance offshore
	Value: Petroglyphs are important in initiation and education.		No	Possible (submerged)
	Value: The sea is acknowledged as a starting point for songlines, including the Flying Fox songline.	MAC, 2023a	Possible (unspecified)	Possible (unspecified)
	Feature: Resources including fishes, turtles and dugong.	Water Corporation, 2019	Possible (turtle; Section 4.6.4) Possible (fish and dugongs)	Possible (turtle; Section 4.6.4) Possible (fish and dugongs)
	Value: Traditional knowledge recalls a sea serpent which travelled from the coast to inland pools.		Possible (unspecified)	Possible (unspecified)
	Value: Traditional knowledge recalls a water serpent from the ocean now lives in an inland pool. He created many sites and punishes Law breakers.	Barber & Jackson, 2011	Possible (unspecified)	Possible (unspecified)
	Value: In a separate account, a sea serpent punishing people was driven back to the sea by a freshwater serpent.		Possible (unspecified)	Possible (unspecified)
	Value: Traditional knowledge recalls Manggan created the seas.	NAC, n.d.	Yes	Yes
	Value: Traditional knowledge recalls Pannawonica Hill being carried from the sea near Barrow Island or Murujuga by a spirit bird.	Hook et al., 2004	Possible (unspecified)	Likely
	Value: Traditional knowledge recalls Murujuga is where ancestral beings emerged from the sea and brought the Law.	Australian Heritage Council, 2012	Possible (unspecified)	Possible (unspecified)
	Feature: Submerged First Nations archaeological sites in Cape Bruguieres channel.	Benjamin et al., 2020	No	Possible
	Feature: Submerged First Nations archaeological sites in Flying Foam Passage.		No	No
	Feature: Submerged First Nations archaeological sites in Cape Bruguieres channel.	Benjamin et al., 2023	No	Possible
	Feature: Submerged First Nations archaeological sites in Flying Foam Passage.		No	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Value: Traditional knowledge recalls Maarga (creation ancestors) lifted the land and sky out of the ocean.	Milroy & Revell, 2013	Possible (unspecified)	Possible (unspecified)
	Value: Traditional knowledge recalls Maarga (creation ancestors) lifted the land and sky out of the ocean.	Japingka Aboriginal Art Gallery, 2023	Possible (unspecified)	Possible (unspecified)
	Feature: Submerged waterholes related to the Kangaroo songline.	Kearney et al., 2023	No (feature restricted to Ancient Landscape)	Possible
	Value: Traditional knowledge holds that Songlines continue beyond the current coast and across the submerged landscape.		No	Possible (unspecified)
	Value: Songlines are captured through storytelling, rock art, songs and dance, and in the landmarks themselves.	Bainger, 2021	No	Possible
	Value: Murujuga is the start of many songlines, including the Seven Sisters.		No	Possible (unspecified)
	Value: Songlines at Murujuga date back to times when the sea-level was lower.	MAC, 2023b	No	Possible (unspecified)
	Feature: Rock art.	Weerianna Street Media Production, 2017	No	Possible (submerged)
	Feature: Sacred sites.		Possible (unspecified)	Possible (unspecified)
	Feature: Resources including fish, turtles.	Leach, 2020	Possible (turtle; Section 4.6.4) Possible (fish)	Possible (turtle; Section 4.6.4) Possible (fish)
	Feature: Fish traps exist throughout the archipelago.		No	Possible
	Feature: Shell middens exist on coastal margins.		No	Possible
	Feature: Submerged archaeological sites.		No (feature restricted to Ancient Landscape)	Possible
	Value: Law emerged from the sea and travelled inland.		Possible (unspecified)	Possible (unspecified)
	Feature: Archaeological sites on Murujuga.	McDonald, 2023	No	Possible (submerged)
	Feature: Archaeological sites on Murujuga.	McDonald, 2015	No	Possible (submerged)
	Feature: Archaeological sites on Enderby Island.	McDonald et al., 2022a	No	No

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Feature: Archaeological sites on Rosemary Island.	McDonald et al., 2022b	No	No
	Feature: Petroglyphs on Murujuga.	Mulvaney, 2015	No	Possible (submerged)
	Feature: Resources including mangrove seeds, turtles, turtle eggs).	Smyth, 2007	Possible (turtle; Section 4.6.4) No (other resources)	Possible (turtle; Section 4.6.4) No (other resources)
	Value: It is recalled that ceremonies were conducted on islands.		No (onshore)	No (onshore)
	Feature: Petroglyph and other archaeological sites at Murujuga.	Dortch et al., 2019	No	Possible (submerged)
Ngarla	Value: Traditional knowledge recalls that Solitary Island is the petrified form of the ancestral octopus Marnmulkura.	Wanparta Aboriginal Corporation, 2022	No	Yes
	Value: People access waters.	Brown (on behalf of the Ngarla People) v State of Western Australia, [2007] FCA 1025	Possible (unspecified)	Possible (unspecified)
	Value: Use the waters for subsistence.		Possible	Possible
Nimanburr	Feature: Places of cultural importance, including Yarp, Flora, Dora Springs, Jinardi (Turtle Point), Repulsive Point. Piridi, Patterson, Milli Milli Lakes, Common Ground at Bungaduk and top of Milli Milli, Lake Louisa, Valentine Island, Tower Hill, Reserve Hill, Bobbie's Creek, La Djardarr Bay and Old Mission, and Ladogen Pool.	Marshall, 2020 Living Heritage: Protecting the Aboriginal Cultural Heritage of the Dampier Peninsula for all. WA Department of Planning, Lands and Heritage	No	Yes (to extent of highest astronomical tide)
	Value: Valentine Island is a culturally significant site for Nimanburr people. Only Traditional Owners and community members should be going to this island as there are concerns for the cultural integrity of the site and the cultural safety of the unauthorised visitors.		No	Yes
Nyangumarta and Karajarri	Feature: Resources including pirrala (threadfin salmon), ulu (bluebone groper), yilany (mangrove jack), wangkaja (mudcrab), janga (oyster) and riji/jakuli (pearl shell) which has important cultural and ceremonial value. Karajarri coastal waters contain great numbers of wild pearl shell.	Karajarri Traditional Lands Association, 2014 Karajarri Healthy Country Plan 2013–2023: Palanapayana Tukjana Ngurra' Everybody looking	No	Possible

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Feature: Saltwater habitats, including wintirri (sandy beaches, dunes and cliffs), wangku (rocky headlands), puntu (intertidal mudflats/freshwater seepages), parnany (reefs) and wankurru (deep sea), hold cultural importance.	after Country properly'	No	Possible
	Value: Saltwater habitats, including wintirri (sandy beaches, dunes and cliffs), wangku (rocky headlands), puntu (intertidal mudflats/ freshwater seepages), parnany (reefs) and wankurru (deep sea), provide resources including food resources. an integral part of keeping people healthy on Country and maintaining elements of traditional lifestyle is the sustainable harvesting of food resources from jurrar (Coastal Country).		No	Possible
	Value: Management of access to coastal areas prevents degradation to landscapes, cultural sites and biodiversity values.		No	Possible
	Value: There is a desire to educate visitors and inform them of the importance of coastal areas.		No	Possible
	Value: Beaches, tidal creeks, bays, reefs and sea-grass beds are breeding and feeding grounds for threatened and migratory sea turtle species such as the olive ridley, hawksbill turtle, loggerhead turtle and green turtle. dugongs and snubfin dolphin inhabit the nearshore areas.		Possible	Possible
	Value: Caring for Country including maintaining cultural sites in coastal and inland areas such as fish traps, ceremonial increase sites, ceremonial areas and Pulany (mythical serpent) sites.		No	Possible
	Value: The wirntirri (seagrass beds) and beaches are important environments for wilarr (particularly flatback and green turtles).		No	Possible

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Value: Areas of parramatta (reef), wirntirri (seagrass) and wurra (seaweed) along the Karajarri coastline provide important habitats for fish and other marine species that contribute to the diet of Karajarri people.		No	Possible
	Value: Fishtraps and middens along the Karajarri coast show the historic cultural importance of saltwater resources.		No	Possible
	Value: Fishtraps are still in use today and require ongoing maintenance.		No	Possible
	Value: Karajarri want their protocols on Country followed by visitors so their laws and customs are respected. Without respecting what Karajarri want on their Country visitors are believed to be putting their own health and that of traditional owners at risk.		No	Possible
	Value: The Kuwaiyinjijala ritual involves spraying spring water from the mouth to cautiously introduce oneself to the Pulany (mythical watersnakes) which reside in springs and jilas.		No	No
	Value: When deemed necessary, Pirrka (Lawmen) or Yiliwirri (rainmakers) are able to interact with Pulany, some of which are considered 'cheeky' or dangerous, particularly to children, and unpredictable.		No	No
Thalanyji	Feature: Resources including fish, shellfish, crabs, crustaceans, sea urchins, turtle, dugong and flora and fauna associated with mangrove communities.	Commonwealth of Australia, 2002	Possible (turtle; section 4.6.4) Possible (fish) No (dugongs, other resources)	Possible (turtle; section 4.6.4) Possible (fish, dugongs, other resources)
	Feature: Archaeological sites on Barrow Island.		No (onshore)	No (onshore)
	Value: Connection to Country.		Possible (unspecified)	Possible (unspecified)
	Feature: Resources include turtles, eggs, fish, shellfish and plants.	Department of Biodiversity, Conservation and Attractions (DBCA) et al., 2002	Possible (turtle; section 4.6.4) Possible (fish) No (other resources)	Possible (turtle; section 4.6.4) Possible (fish) No (other resources)

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Value: Traditional knowledge recalls a water snake is located in inland waters.	Hayes on behalf of the Thalanyji People v State of Western Australia [2008] FCA 1487	No (inland waters)	No (inland waters)
	Value: Connection to Country.	DBCA, 2022	Possible (unspecified)	Possible (unspecified)
	Value: Transfer of knowledge.		Possible (unspecified)	Possible (unspecified)
	Value: Access to Country.		Possible (unspecified)	Possible (unspecified)
	Value: Access to Barrow and possibly Montebello Islands.	Hook et al., 2004	No	Possible
	Feature: Artefact scatters are located in coastal sand dunes.	Hook, 2020	No	Possible (shoreline accumulation areas)
	Feature: Burials are located in coastal sand dunes.		No	Possible (shoreline accumulation areas)
	Value: Traditional knowledge recalls a water snake is located in inland waters.		No	No
	Feature: Archaeological sites are located on Barrow Island.	Ditchfield et al., 2018	No	Possible (shoreline accumulation areas)
	Feature: Thalu ceremonial sites for the increase of turtle, shark, ray, fish, squid, octopus, hill kangaroo and emu.	DBCA, 2022	No	No (ceremonial use) Possible (submerged thalu sites; e.g. petroglyphs)
	Feature: Ceremonies.		No	No
	Value: Connection to Country.		Possible	Possible
	Value: Transfer of knowledge.		Possible	Possible
	Value: Access to Country.		Possible	Possible
	Feature: Archaeological sites are located at Barrow and Montebello Islands.	Dortch et al., 2019	No	Possible (shoreline accumulation areas)
	Feature: Archaeological evidence of the use of resources including fish, turtles, marine mammals, crocodiles, crabs and sea urchins.		No	Possible (submerged, highly unlikely for most evidence of faunal use to survive inundation)
	Feature: Archaeological sites are located on Barrow Island.	Paterson, 2017	No	Possible (shoreline accumulation areas)

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
Yamatji	Feature: Resources including shellfish, crayfish, periwinkles (sea snail), crayfish, abalone, Octopus, bigurda (hill kangaroo).	Taylor on behalf of the Yamatji Nation Claim v State of Western Australia [2020] FCA 42	No	Possible
	Feature: Bimara is the mythological snake, which is associated with parts of the Irwin River, including a spring at Depot Hill, Noondemarra Pool to the west of the Mullewa, Greys Beach in Geraldton and Ellendale Pool to the south-east of Geraldton.		No	Possible
	Feature: One Bimara site is a soak near Greys Beach which had good water.		No	Possible
	Value: Traditional rules and practices on Country (possibly including Sea Country) include site avoidance, totemic and mythological knowledge, beliefs in the water serpent and spirit beings, ancestral spirits, sanctions for damage to or disregard of Country, protocols when visiting sites such as water holes and the belief in the bimara "complex".		No	Possible
	Value: Traditional knowledge includes catching crayfish by stabbing them with a wooden spear or grabbing them by hand. <i>"To make the spear, you'd have rubber tied around your hand, and a hook on the end or a piece of wire, hold the spear and let go. Was called a Hawaiian spear."</i>		No	Possible
	Value: Traditional knowledge includes caring for Country at the river. <i>"The older people used to clean the water out to clean the river."</i> River gum trees would be cut to make wanna (digging sticks) to dig out the mouth of the river so that it could flow into the ocean.		No	No
	Value: Access to Country for hunting and fishing.		No	Possible
	Value: Beachlands [and Geraldton] Reef is a source of food resources including periwinkles and bullrush roots.		No	Yes
Yawuru	Feature: Resources including bluebone, molluscs, fish, crustaceans, oysters, birrga-birrga (cockles), mulj (periwinkle), njiwa (green crab), umung-umung (hermit crab).	Yawuru Registered Native Title Body Corporate, 2014 Yawuru Indigenous	No	Possible

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Feature: Camp sites including middens and shells.	Protected Area. Walyjalajala nagulagabu birrangun buru. Plan of Management 2016–2026	No	Possible (unlikely to survive in intertidal zone)
	Feature: Snubfin dolphin, fish including sharks and rays, and migratory birds.		No	Possible
	Value: Yawuru Country is a living cultural landscape.		No	Possible (unspecified)
	Value: The right to enjoy Yawuru Country and to maintain customary practices.		No	Possible
	Value: Yawuru are responsible for looking after Yawuru Country.		No	Possible
	Value: Yawuru traditional ecological knowledge is the foundation for ecologically sustainable resource management.		No	Possible
	Value: Traditional knowledge allows people to " <i>read the sea</i> " and determine when it is a good day for collecting a resource.		No	Possible
	Value: Ceremony involving song and corroboree would increase populations of fish, oysters and grubs.		No (species) No (onshore ceremony)	Possible (species) No (onshore ceremony)
	Value: Reefs and sea-grass beds provide habitats for dugong and sea turtle species including hawksbill turtle, loggerhead turtle, green turtle and flatback turtle.		No	Possible
	Value: Monsoon vine is a culturally important source of bush food, materials and medicine.		No	Possible
	Value: Mangrove communities provide nursery grounds for culturally important fish and crab species, roosting and feeding sites for megabat and microbat populations, and important habitat for numerous bird species.		No	Possible
	Value: Niyamarri (sand dunes) carry many of the stories of our ancestral beings that formed our Country, revealed in songlines that cross the Australian continent.		No	Possible
	Value: Sand dunes defend Country from the tidal surges that come with wet season cyclones: " <i>They are also important for cyclone protection, a windbreak for the town</i> ".		No	Possible

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Value: Sand dunes at Beacon Hill were filled with middens, artefacts, shells and grinding stones.		No	Possible
	Value: There were three places in the Beacon Hill sand dunes that should never be touched for cultural reasons.		No	Possible
Unspecified	Feature: The ocean can include sacred sites and songlines.	Smyth, 2008	Possible (unspecified)	Possible (unspecified)
	Value: People have kin relationships to important animals, plants tides and currents.		Possible (unspecified)	Possible (unspecified)
	Feature: Archaeological sites in submerged landscapes.	Bradshaw, 2021	No (feature restricted to Ancient Landscape)	Possible
	Value: Sea Country has customary Law defining ownership and management rights and responsibilities.	Muller, 2008	Possible (unspecified)	Possible (unspecified)
	Value: Knowledge of Sea Country.	Kearney et al., 2023	Possible (unspecified)	Possible (unspecified)
	Value: Connection to Sea Country.		Possible (unspecified)	Possible (unspecified)
	Value: Care for Sea Country.		Possible (unspecified)	Possible (unspecified)
	Value: The extent of Sea Country is determined by the travels of Dreaming ancestors. This is recorded and conveyed through songlines.		Possible (unspecified)	Possible (unspecified)
	Feature: Archaeological sites indicate that islands were occupied prior to sea level rise.	DBCA, 2020	No	No
	Value: Sea Country includes values, places, resources, stories and cultural obligations.	Smyth, 2007	Possible (unspecified)	Possible (unspecified)

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Value: Activities relating to resources included: • dugong hunting • turtle hunting • turtle egg collecting • seabird egg collecting • spearing fish • reef trapping fish • herding fish • line fishing • collecting fish in stone fish traps • poisoning fish • gathering shellfish and other marine resources.		Possible (unspecified)	Possible (unspecified)
	Value: People have kinship relationships with every plant and animal.	Juluwarlu, 2004	Possible (unspecified)	Possible (unspecified)
	Value: Certain species, including fish and seafood, must not be eaten during initiation rituals due to their sacredness to the creation being Barrimirndi. Breaking this Law may lead to cyclones.		No	No
	Feature: Tangible and intangible heritage.	Macfarlane & McConnell, 2017	Possible (unspecified)	Possible (unspecified)
	Feature: Archaeological evidence of varied occupation and adaptation.		No (feature restricted to Ancient Landscape)	Possible (submerged, highly unlikely for most evidence of faunal use to survive inundation)
	Value: A distinct way of life centred around the use of limited water and coastal resources.		No	No
Yued	Feature: The rainbow serpent formed the islands off Jurien Bay, then created the Nambung River.	National Agricultural Catchments Council National Resources Management, 2021	No	Possible
	Feature: Ospreys are an animal of significance.		Possible	Possible
	Feature: Sacred site at Wedge Island.		No	Possible
Whadjuk	Value: The sea is of great spiritual significance.	Derbal Nara, n.d.	Possible	Possible
	Feature: Significant sites include Carnac Island and Garden Island.		No	Possible
	Value: The spirits of the dead go through the sea to a place far away.		Possible (unspecified)	Possible

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Feature: Nyungar people used all the resources of the coast.		No	Possible
Whadjuk	Value: Connection to Country. Noongar people have lived with, cared for, and governed this Country for over 50,000 years – but in truth, we have been here since kora, the beginning. The ocean, the rivers, the coastal plains and the hills – they are not separate from us. We are one. We are not stakeholders. We are rights-holders. Our sovereignty has never been ceded. It coexists – and it commands respect. Recognition that heritage is not just about the past – it is about living culture, identity, and Law. Whadjuk ILUA Sea Country. Not forgotten. Not broken. Still standing – and rising.	Whadjuk Aboriginal Corporation, 2025	Possible (unlikely)	Possible
	Feature: Burial Ground located on Wadjemup (Rottnest Island). Almost 4,000 Aboriginal men and boys from all over WA were exiled at the Rottnest Island Aboriginal Establishment from 1838 to 1931. These men and boys came from many different Aboriginal tribes across WA, including Whadjuk Country.	Rottnest Island Authority, 2025	No	Possible (shoreline accumulation only)
	Value: Wadjemup (Rottnest Island). Wadjemup is a place of cultural significance for the Whadjuk Noongar people. Accessible by foot at the time, its elevated position on the coastal plain made it an important place for the local Noongar peoples and a site for hunting, gathering and trade.		No	Possible (shoreline accumulation only)
	Value: Health of Wadjemup (Rottnest Island). Great importance was placed on maintaining and monitoring the health of the land (and water surrounding and within it) due to the essential role it played in their ancestors' cultural practices.		No	Possible (shoreline accumulation only)

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
	Value: Caring/connection to Country. The South West Native Title Settlement is the largest native title settlement in Australian history. The settlement is made up of six ILUAs, including the Whadjuk People (Perth Metropolitan area). The Whadjuk Regional Corporation has a Cultural Advice Committee, which is made up of Elders who consider matters relevant to culture and make decisions to promote and protect cultural interests.		No	Possible
	Value: Connection to Country. Noongar <i>boodja</i> (Country) extends from north of Jurien Bay, inland to the north of Moora and down to the southern coast between Bremer Bay and east of Esperance.	Mickan, 2019.	No	Possible
	Value/s: Sea resources. Food from the sea and waterways are a major resource for Noongars: djildjit (fish), warden noorn (eel), abalone, cobbler, marron and gilgies. Fishing was traditionally carried out by men, while women gathered yams, berries and quandongs. Yarkan – turtle.	SWALSC, 2025	No	Possible (shoreline accumulation only)
Gnaala Karla Booja	Value: Myths associated with the separation of Rottnest, Garden and Carnac islands from the mainland.	Australian Interaction Consultants, 2006	No	Possible
	Value: There are important totemic species along the coast, including mullet and whale.	Ethnoscience, 2020	No (mullet) Possible (whale)	Possible
Karri Karrak	Values: turtles, fish, crustaceans	South West Boorah #2 registration decision NNTT File No WC2006/004	Possible	Possible
	Feature: Wadandi coastal zone (Augusta-Margaret River-Geopraphe Bay region) has numerous places of cultural significance and subsistence resource sites such as limestone caves, coastal dune systems and waterways. The coastal dunes are believed to be a burial place.	Davies et al., 2022	No	Possible

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

First Nations group	Features and values	Source	Potential for Overlap	
			Operational Area	EMBA
Wagyl Kaip	Feature: Fish traps at Oyster Harbour.	SWALSC, 2024	No	Possible
	Value: Spiritual association with the water and creatures in the water.	Scott & Brewster, 2012	Possible (unspecified)	Possible (unspecified)
Esperance Tjaltraak	Feature: Estuaries, islands, sea as part of cultural corridors that are still alive and part of the identity and heritage of the community.	Esperance Tjaltraak Native Title Aboriginal Corporation, 2023	Possible	Possible

4.9.4.2 Studies of cultural features and heritage values

4.9.4.2.1 First Nations archaeological heritage assessment

Woodside understands that communal cultural connection may exist between Traditional Custodians and land and waters. It is understood from the onshore archaeological record that First Nations people have occupied the Australian continent for at least 65,000 years (Clarkson et al., 2017) and in many places maintain a strong continuing connection that is said to extend back in First Nations cosmology to the beginning of time.

It is understood that the sea level has risen significantly during the 65,000 years of First Nations occupation, and areas that were once inhabited are now submerged on the continental shelf (Veth et al., 2019; University of Western Australia (UWA), 2021). Woodside also understands that, at its lowest level during First Nations occupation, sea level was between 125 m (O'Leary et al., 2020; Veth et al., 2019; Williams et al., 2018) and 130 m below current levels (Benjamin et al., 2020; Benjamin et al., 2023; UWA, 2021). Archaeological material preserved on the Ancient Landscape has the potential to provide further information about the earliest periods of human occupation (Veth et al., 2019; UWA, 2021).

Recent archaeological discoveries demonstrate that the now submerged landscape was occupied and inhabited and can retain archaeological material from this time (Benjamin et al., 2020; Benjamin et al., 2023; see Ward et al., 2021 for an opposing view).

In recognition of this, Woodside considers the Ancient Landscape between the mainland and the Ancient Coastline KEF (see Section 4.7) as an area where potential First Nations archaeological material may exist on the seabed, as this covers the full extent of this possible First Nations occupation. The Operational Area does not overlap the Ancient Landscape; however, the EMBA does.

Known First Nations heritage places including archaeological sites may be protected subject to declarations under the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*, *Underwater Cultural Heritage Act 2018* or *EPBC Act 1999*. However, these Acts only extend protection to First Nations heritage places specified by declaration or otherwise included on a statutory list. Woodside understands that there is no First Nations archaeology known to exist anywhere within Commonwealth waters, and no areas subject to declarations or prescriptions under these Acts are located within the EMBA.

For this EP, a search of Department of Planning, Lands and Heritage's Aboriginal Cultural Heritage Inquiry System was undertaken, which showed 315 registered Aboriginal sites in the EMBA (see Appendix D).

If First Nations archaeological material is identified within the Operational Area, Woodside will discuss the management of this material with appropriate Traditional Custodian group(s), starting with any adjacent Native Title Body Corporate.

4.9.4.3 Consultation feedback to inform existing environment

4.9.4.3.1 Summary of values raised during consultation

A summary of the topics/interests and values raised by First Nations groups through consultations on this Petroleum Activity, or raised in the context of general project activities or other activities are provided in Table 4-19.

First Nations cultural values are communally held. This is reflected in Vision 3 of Dhawura Ngilan that *“Aboriginal and Torres Strait Islander heritage is managed...according to community ownership”* (Heritage Chairs of Australia and New Zealand, 2020). Dhawura Ngilan also specifically notes that *“Aboriginal and Torres Strait Islander...intangible knowledge systems, which are held in songlines and language, are endangered. This knowledge is held by Elders and the community...”* Through consultation Registered Native Title Bodies Corporate and nominated representative corporations have identified or raised topics relating to environmental values of cultural interest. Woodside recognises the deep spiritual and cultural connection to the environment³ that First Nations people hold.

The Program of Ongoing Engagement with Traditional Custodians (Appendix G) provides a mechanism for ongoing dialogue between Woodside and Traditional Custodians, beyond that required by Regulation 25. The program enables Woodside to manage the potential impacts and risks to cultural values which may be identified at any time during Woodside's activities via ongoing dialogue with Traditional Custodians. As an example, Woodside is developing a framework for ongoing consultation with BTAC and other groups (Appendix G). Should feedback be received (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its management of change and revision process (see Section 7.6).

³ Definition of 'Environment' in Regulation 5 of the OPGGS (Environment) Regulations are defined as:

- a) ecosystems and their constituent parts, including people and communities
- b) natural and physical resources
- c) the qualities and characteristics of locations, places and areas
- d) the heritage values of places, and includes
- e) the social, economic and cultural features of the matters mentioned in paragraphs (a), (b), (c) and (d).

Table 4-19: Feedback received via consultation to inform existing environment description

Relevant First Nations group/ individuals	Consultation context	Description of feature and value/interest	Potential for overlap	
			Operational Area	EMBA
BTAC representing some of the Gnulli native title claimants (Baiyungu and Thalanyji people)	Raised in context of consultation on activities subject to other EPs	Value: Cultural obligation to care for the environmental values of Sea Country. Sea Country extends “out to the vast islands off the coast of the Pilbara, including the Monte Bello Islands, Barrow Island, and the Mackerel Islands”.	Possible (unspecified)	Possible (unspecified)
Kariyarra Aboriginal Corporation	Raised in context of consultation across various EPs	Feature: Intangible cultural heritage sites including Yinta (ancestral sites underpinning Law and connection to Country).	Possible (highly unlikely due to distance)	Possible (unspecified)
		Feature: Coastal landforms.	No	Possible (unspecified)
		Feature: Coastal native vegetation.	No	Possible (unspecified)
		Feature: Tangible cultural heritage sites.	No (feature restricted to Ancient Landscape)	Possible
		Value: resource collection including fishing; trapping; crabbing; catching turtles, dugong and stingray; and collecting shellfish.	No	Possible
		Value: Access to Country including visiting offshore islands at low tide.	No	Possible (unspecified)
		Value: Intergenerational knowledge transfer.	Possible (highly unlikely due to distance)	Possible (unspecified)
		Value: Cultural obligations to care for Country, including Sea Country.	Possible	Possible
		Value: Marine resources – in relation to adverse event [hydrocarbon spill].	Possible	Possible

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Relevant First Nations group/ individuals	Consultation context	Description of feature and value/interest	Potential for overlap	
			Operational Area	EMBA
		Value: Responsibility to care for Sea Country. Value: Marine resources. Kariyarra explained the most important thing is the preservation of sea life and coastal areas. The ocean provides critical food sources to their community and Kariyarra Traditional Owners are coastal people so they have a strong connection to the area and a responsibility to preserve the area for future generations.	Possible (unspecified) Possible	Possible (unspecified) Possible
		Value: River systems are important to the food chain.	No	No
		Value: Marine resources: • shellfish • cockles • oysters • clam shells • con shells • mullets • sea cow (dugong).	Possible (all) No (dugong)	Possible (all)
Murujuga Aboriginal Corporation representing Ngarda-Ngarli people (Mardudhunera, Ngarluma, Wong-Goo-Tt-Oo, Yaburara and Yindjibarndi)	Raised in context of consultation on activities subject to other EPs	Value: Mermaid Sound – ecosystem health.	No	Possible
		Feature: Whale. Value: A whale thalu is an increase at a totemic site that brings whales into beach. Value: Whales and other species of totemic importance need to be protected, including their populations, biodiversity and migration patterns. Value: Whales are culturally important species that migrate through Mermaid Sound. Humpback whales in particular.	Possible (Section 4.6.3) Possible (unspecified) Possible Possible	Possible (Section 4.6.3) Possible (unspecified) Possible Possible
		Feature: Dolphins. Value: There are cultural ceremonies associated with communicating with dolphins.	Possible Possible (unspecified)	Possible Possible (unspecified)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Relevant First Nations group/ individuals	Consultation context	Description of feature and value/interest	Potential for overlap	
			Operational Area	EMBA
		Feature: Dugongs. Value: Dugongs are a food source associated with seagrasses near Gidley Island.	No No	No No
		Feature: Fish. Value: There are thalu ceremonies associated with increasing fish stocks.	Possible Possible (unspecified)	Possible Possible (unspecified)
		Feature: Sea snakes. Specifically mentioned as culturally important species.	Possible	Possible
		Feature: Flatback, green, hawksbill, loggerhead and leatherback turtles. Turtles are culturally important species that moves through Mermaid Sound. Turtles are most often seen in shallower areas and where there are seagrasses. Most beaches are nesting sites for turtles, including those on Gidley and Legendre Islands. Value: The songline associated with the turtle comes from Fortescue to Withnell Bay. This song is sung by four or five tribes for day and night without consuming food or water.	Possible (turtle; Section 4.6.2) No No	Possible (turtle; Section 4.6.2) Possible Possible
		Interest: Coral. Fish are attracted to areas with coral. Concerned about coral bleaching because corals are important. Beautiful colours. They also attract a lot of other things. Fish carry coral spawn like bees pollinate flowers. If fish were looked after, the corals would get brighter and brighter (by transmitting nutrients and performing other ecosystem services, fish can be symbiotic with corals). Spawning events should be avoided (associated with full moon). Locations identified during consultation include Withnell Bay; Conzinc Bay; south-west of Legendre Island.	No (Section 4.5)	Possible (Section 4.5)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Relevant First Nations group/ individuals	Consultation context	Description of feature and value/interest	Potential for overlap	
			Operational Area	EMBA
		Feature: Seagrass. Seagrasses provide protection for animals. Locations identified during consultation include Conzinc Island; between Angel and Gidley Island.	No (Section 4.5)	Possible (Section 4.5)
		Value: Mangroves would have provided shelter, crabbing, digging for shellfish, could be turtle nurseries. Locations identified during consultation include Conzinc Bay north end; Flying Foam Passage; Searipple Passage; north-east bay of West Lewis Island.	No (Section 4.5)	Possible (Section 4.5)
		Interest: Macroalgal communities, which are important primary production sites, habitats, and food sources (not explicitly identified by Elders).	No (Section 4.5)	No (Section 4.5)
		Interest: Subtidal soft-bottom communities, which support invertebrate diversity (not explicitly identified by Elders).	No (Section 4.5)	No (Section 4.5)
		Interest: Intertidal sand and mudflat communities, which are important primary production sites, support invertebrate diversity and provide food for shorebirds (not explicitly identified by Elders).	No	No
		Interest: Rocky shores, which are habitats for intertidal organisms and provide food for shorebirds (not explicitly identified by Elders).	No	No
		Feature: Fish traps. There are known fish traps in Conzinc Bay, and others would have or do exist in coastal areas of islands, such as Angel and Gidley Islands. People still use the Conzinc Bay fish traps regularly for catching mangrove jack, trevally and other fish. Value: Squidding (harvesting of squid from the ocean) around Conzinc Island.	No No	No No
		Value: Appropriate cultural authority for Murujuga.	No	Possible (shoreline accumulation only)
		Interest: Management of onshore heritage sites.	No	Possible (shoreline accumulation only)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Relevant First Nations group/ individuals	Consultation context	Description of feature and value/interest	Potential for overlap	
			Operational Area	EMBA
		Interest: Submerged heritage. Engage with researchers on options to identify potential submerged heritage.	Possible	Possible
		Value: Songlines. The potential impact on jinna (songlines) due to the lack of broader-scale bathymetric information for the submerged landscape.	Possible (unspecified)	Possible (unspecified)
		Value: Marine resources: • stingrays • sharks • crustaceans • octopus • sea stars • sea urchins • sponges • molluscs.	Possible (all)	Possible (all)
		Value: Submerged landscape. Potential impact to Aboriginal heritage, due to the submerged coastline at initial occupation of the region, landscape features that would have defined the first travel routes used to move through Country.	Possible	Possible
		Feature: Murujuga seasonal calendar. Any change to the feeding, breeding or migratory behaviour of culturally significant species would impact significantly on subsistence, cultural and ceremonial activities.	Possible (unspecified)	Possible (unspecified)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Relevant First Nations group/ individuals	Consultation context	Description of feature and value/interest	Potential for overlap	
			Operational Area	EMBA
Ngarluma Aboriginal Corporation	Raised during consultation for another EP	Interest: Management of onshore heritage sites.	No	Possible (shoreline accumulation only)
		Interest: Submerged heritage. Engage with researchers on options to identify potential submerged heritage.	Possible	Possible
Ngarluma Yindjibarndi Foundation Limited (NYFL)	No values raised	-	-	-
Nghanurra Thanardi Garrbu Aboriginal Corporation representing Baiyungu and Thalanyji people	Raised in context of consultation on activities subject to other EPs	Interest: Whales – query regarding noise impacts, monitoring and operational responses to whale sightings.	Possible (Section 4.6.3)	Possible (Section 4.6.3)
	Raised in context of decommissioning activities	Interest: Whale sharks – query regarding activity timing. Interest: Marine parks – query regarding risks from activity in relation to decommissioning.	No No	Possible (Section 4.6.3) Possible (Gascoyne AMP)
Robe River Kuruma Aboriginal Corporation (RRKAC)	Raised in context of consultation on activities subject to other EPs	Feature: Underwater heritage.	No (feature restricted to Ancient Landscape)	Possible
Wirrawandi Aboriginal Corporation representing Ngarda-Ngarli (Mardudhunera and Yaburara)	Raised in context of consultation on activities subject to other EPs	Interest: Whales – query with regard to whale migration and timing of project activities; impact of noise on whale communication. Interest: Turtles – query with regard to turtle monitoring programs. Interest: Underwater heritage – query with regard to where sites have been recently found.	Possible (Section 4.6.3) Possible (Section 4.6.2) No	Possible (Section 4.6.3) Possible (Section 4.6.2) Possible
	Raised in context of decommissioning activities	Interest: Rock art – query whether air emissions from activities impacts rock art and controls to minimise potential impacts.	No	No
Yamatji Marlpa Aboriginal Corporation	No values raised	-	-	-
Yindjibarndi Aboriginal Corporation	No values raised	-	-	-

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Relevant First Nations group/ individuals	Consultation context	Description of feature and value/interest	Potential for overlap	
			Operational Area	EMBA
Yinggarda Aboriginal Corporation representing Yinggarda People	Raised in context of consultation on activities subject to other EPs	Interest: Whales – query with regard to potential impacts to whale migration patterns and impacts from vessel collision.	Possible (Section 4.6.3)	Possible (Section 4.6.3)
		Value: Shark Bay mullet – important resource.	No (coastal species)	Possible
		Interest: Dugong – raised in the context of Shark Bay.	No	Possible
		Interest: Seagrass being food source for dugong.	No (Section 4.5)	No (Section 4.5)
Willingin Aboriginal Corporation	No values raised	-	-	-
Gogolayngor Aboriginal Corporation	No values raised	-	-	-
Balangarra Aboriginal Corporation	No values raised	-	-	-
Wunambal Gamera Aboriginal Corporation	No values raised	-	-	-
Dambimangari Aboriginal Corporation	No values raised	-	-	-
Wanjina-Wunggurr (Native Title) Aboriginal Corporation	No values raised	-	-	-
Mayala Inninalang Aboriginal Corporation	No values raised	-	-	-
Nyul Nyul PBC Aboriginal Corporation	No values raised	-	-	-
Bardi and Jawi Niimidiman Aboriginal Corporation	Raised in context of consultation on this EP	There are values outlined in the Joint Management Plan for the Bardi Jawi Gaarra Marine Park.	No	No
Nimanburr Aboriginal Corporation	No values raised	-	-	-
Karajarri Traditional Lands Association	No values raised	-	-	-

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Relevant First Nations group/ individuals	Consultation context	Description of feature and value/interest	Potential for overlap	
			Operational Area	EMBA
Nyangumarta Karajarri Aboriginal Corporation	No values raised	-	-	-
Nyangumarta Warrarn Aboriginal Corporation	No values raised	-	-	-
Wanparta Aboriginal Corporation	Raised during consultation for another EP	Value: Connection to Sea Country. <i>The Ngarla People have a deep spiritual connection to Sea Country.</i>	Possible	Possible
		Feature: Nearshore Islands (particularly Solitary Island/ Jarrkumpungu). Value: Intangible Cultural Heritage (Dreaming stories). (1) Wanparta stated that they are linked to the Dreaming stories through the interconnecting islands. (2) Wanparta legal representative highlighted that there are Dreaming stories through the nearshore island (Solitary Island/Jarrkumpungu).	No (all)	Possible (all)
		Value: Cultural obligation to look after Sea Country values. <i>Extremely important to Ngarla people, and they feel a responsibility to look after the ocean and lore.</i>	Possible	Possible
		Feature: Sea (fresh and salt water). Value: Intangible Cultural Heritage (Dreaming stories). <i>Comments that we are a sea people connected through both fresh and salt water with Dreamtime stories that do connect through the sea.</i>	Possible Possible (unspecified)	Possible Possible (unspecified)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Relevant First Nations group/ individuals	Consultation context	Description of feature and value/interest	Potential for overlap	
			Operational Area	EMBA
		Feature: Sea (ocean/water). (1) Wanparta noted that they feel a sense of responsibility to keep looking after the ocean. They noted that they are very connected to the health of the ocean, they have a sense of responsibility to look after the ocean (Law and culture). If impacted, this would impact future generations and how Law is practiced. (2) Wanparta legal representative explained the emblems and totems reflected on the Wanparta Aboriginal Corporation logo. She noted that the dark blue on the logo represents the ocean (and that their Native Title) extends into the ocean). (3) The importance of water was emphasised by the group. (4) Protection and management of marine life and healthy ocean play a significant role in lore, culture and customs.	Possible (all)	Possible (all)
		Value: Marine species. Wanparta legal representative explained the emblems and totems reflected on the Wanparta Aboriginal Corporation logo. The animals depicted on the logo are totemic species and include the (1) kestrel, (2) octopus, (3) spiny brim and (4) sting ray.	(1) No Possible (all)	(1) No Possible (all)
		Value: Sea life health. Wanparta noted that water and sea life is important to the Ngarla people. It was said that a healthy marine life equal an important food source equals healthy people	Possible	Possible
		Value: Fish. Wanparta are concerned with maintaining fish stock post operations.	Possible	Possible
		Value: Ethnohistorical evidence on islands. Wanparta noted that there is ethnohistorical evidence of Ngarla occupation on islands.	No	Possible (unspecified – shoreline accumulation only)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Relevant First Nations group/ individuals	Consultation context	Description of feature and value/interest	Potential for overlap	
			Operational Area	EMBA
Nanda Aboriginal Corporation	No values raised	-	-	-
Malgana Aboriginal Corporation	No values raised	-	-	-
Bundi Yamatji Aboriginal Corporation	No values raised	-	-	-
Yued Aboriginal Corporation	No values raised	-	-	-
Whadjuk Aboriginal Corporation	Raised during the course of consultation for another EP	Value: Coastline.	No	Possible (shoreline accumulation only)
		Value: Wadjemup (Rottnest Island) is an important spiritual place for Whadjuk.	No	Possible (shoreline accumulation only)
		Value: Cultural connection to groups along the coast.	No	Possible (unspecified)
		Value: Songlines, affiliations to cultural and Sea Country totems and seasonal fishing traditions.	Possible (unspecified)	Possible (unspecified)
Gnaala Karla Booja Aboriginal Corporation	No values raised	-	-	-
Karri Karrak Aboriginal Corporation	No values raised	-	-	-
Wagyl Kaip Southern Noongar Aboriginal Corporation	No values raised	-	-	-
Esperance Tjaltjraak Native Title Aboriginal Corporation	No values raised	-	-	-
Ngadju Native Title Aboriginal Corporation	No values raised	-	-	-

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.9.4.3.2 Further information regarding Buurabalayji Thalanyji Aboriginal Corporation's Sea Country values

During consultation, BTAC, on behalf of the Thalanyji People, advised it has a cultural obligation to care for the environmental values of Sea Country (refer to Appendix F, Table 1).

In correspondence from 20 February 2023 relating to another Woodside project, BTAC advised that:

BTAC seeks support from Woodside to enable BTAC to define and articulate its values on Sea Country in a manner that could be more clearly understood by the offshore sector, government, and the community. This would enable BTAC and Woodside to collaborate to develop effective management plans that can provide adequate protection to Sea Country values; and BTAC seeks support from Woodside to obtain technical support to review the information and provide BTAC and its members with feedback on the project risks to Sea Country and help BTAC contemplate the potential management controls that could be developed to protect its values and interests.

These requests do not constitute a request for an ethnographic survey. Woodside has agreed to BTAC's request, and the resulting offer of technical support is detailed in Appendix F, Table 1. However, Woodside's offer for technical support has not yet been accepted.

BTAC noted that this Sea Country extends "out to the vast islands off the coast of the Pilbara, including the Monte Bello Islands, Barrow Island, and the Mackerel Islands." In the absence of further advice from BTAC, Woodside understands from this description that BTAC's interests extend to the Montebello Marine Park Multiple Use Zone in the vicinity of the islands.

While an ethnographic survey has not been requested, a review of publicly available literature has been undertaken to seek clarity on the extent of Sea Country for Thalanyji people. This review identified a number of heritage research projects undertaken for the Montebello and Barrow Islands which acknowledge the support of BTAC (e.g. Manne & Veth, 2015; Veth et al., 2017), though no information regarding Sea Country values, or the extent of Sea Country, were identified.

Publicly available heritage assessment reports elsewhere on Thalanyji Country tend to rely on established native title boundaries (e.g. Chisholm, 2013) or draw on historic maps, particularly those compiled by Norman Tindale and published in 1947 (e.g. Archae-aus, 2020). An early 1940s map by Tindale shows "Talaandji" (Thalanyji) Country as exclusively terrestrial and further west than areas typically recognised today as Thalanyji Country (Tindale 1940). This map also shows the Noala people as custodians of the Onslow area and defines Barrow and the Montebello Islands as "Mardudhunera" (Mardudhunera) Country – it is unclear from the map if the boundary of Mardudhunera is proposed to represent an extent of Sea Country, or merely note that these islands are part of Mardudhunera Country. A further refined version of this map was produced in 1974 which shows "Talandji" in a location more closely aligned with contemporary understanding of Thalanyji Country and removes the apparent extent of Mardudhunera over Barrow and the Montebello Islands" (Tindale, 1947). This definition of Thalanyji Country is still confined to the mainland in this map. A more contemporary attempt at mapping traditional Country is shown in the Australian Institute of Aboriginal and Torres Strait Islander Studies Map of Indigenous Australia (Horton, 1996). This map similarly confines Thalanyji Country to terrestrial areas west of Onslow and leaves Barrow and the Montebello Islands unmarked as an area with "No published information available". It is also noted that "This map is based on data collected up to 1994 and is not intended to show precise areas or boundaries" (Horton, 1996).

Collective assessments of Sea Country in the Pilbara (Lincoln & Hedge, 2019; YMAC et al., 2010) were also found to rely on existing native title boundaries. It is noted in the Pilbara Sea Country Plan (YMAC et al., 2010) that:

Although some differences remain, between and among native title groups, there is now a general sense that most groups have coalesced into final forms that will, in future, be the groups that exercise rights and interests in their respective areas. many of these rights and interests will relate directly to native title. however, there is also a more broadly based appreciation of the need to accept and discharge responsibilities for land and marine management within native title areas regardless of whether native title per se is affected. (YMAC et al., 2010, emphasis added).

The office of the Registrar of Indigenous Corporations records four corporations using the name Thalanyji:

- Buurabalayji Thalanyji Aboriginal Corporation
- Buurabalayji Thalanyji Aboriginal Corporation Registered Native Title Body Corporate

- Onslow Thalanyji Aboriginal Corporation
- Wurrumalu Thalanyji Aboriginal Corporation.

The only currently operative organisation, and the only organisation with an identifiable website, is BTAC Registered Native Title Body Corporate. This website states that "*Thalanyji Country spreads out across the Ashburton River coastal plain south to Tubridji Point, then across to Yannarie River and upstream to Emu Creek, across the range hills of southwest Pilbara to Henry River and Cane River in the north*" (BTAC, 2021). This description includes coastal areas but provides no description of the extent of Sea Country.

A search of the National Native Title Tribunal register of applications and determinations identified four historic native title claims with the name Thalanyji:

- Thalanyji People (WC1995/002)
- Thalanyji People #2 (WC1996/082)
- Thalanyji (WC1999/045)
- Thalanyji 2 (WC2010/004).

Most of these claims were dismissed, and Woodside makes no assessment of the merits of these claims.

The area of WC1995/002, as defined in the map forming Attachment 1 to the Native Title Application⁴, does not include any areas of Sea Country. WC1996/082 does not include a publicly available map on the National Native Title Tribunal website. The Native Title Application⁵ does describe the area covered by the claim, including "*This country extends from the Tubridji Point on the coast south west of Onslow and tracking south to Yanarrie River.*" and "*The area also includes the waters and associated islands between Tubridji point and Cane River. These islands were visited by Thalanyji People.*" The extent of this Sea Country from the coast is unclear, but would presumably include islands as distant as Airlie Island, approximately 30 km from the shore.

The area of WC1999/045, as defined in the map forming Attachment C to the Native Title Application⁶, includes an area of water extending approximately 30 km from the mainland coast in encompassing a number of islands, including Airlie Island, Ashburton Island, Bessieres Island, Direction Island, Flat Island, Locker Island, Round Island, Serrurier Island, Table Island, Thevenard Island, Tortoise Island and the Twin Islands. The area also includes the south-most of the Mangrove Islands, but does not include the other Mangrove Islands.

The area of WC2010/004, as defined in the map forming Attachment C to the Native Title Application⁷ includes localised areas of sea up to approximately 5 km beyond the coast.

In none of these applications do the extent of asserted interests extend to Barrow, Mackerel or the Montebello Islands. The furthest extent of a claim is the approximate 30 km margin extended from the mainland coast for WC1999/045. If this margin is precautionarily applied to the coasts of the Montebello Islands (as the closest islands to the Operational Area which were identified by BTAC in defining their Sea Country) this would not exceed beyond the Montebello Multiple Use Zone within the vicinity of the islands.

In summary, the publicly available information considered in this section does not record any instances of Thalanyji Sea Country extending beyond the Montebello Multiple Use Zone within the vicinity of the islands. The Montebello Islands, Barrow Island or the Mackerel Islands or the Montebello Marine Park Multiple Use Zone, or the islands indicated in WC1999/045 are outside of the Operational Area and EMBA for the activity.

Woodside has developed a robust understanding of Thalanyji Sea Country cultural values and heritage features through publicly available information (Section 4.9.4.1) and consultation with BTAC under Regulation 25. Woodside considers that it has taken all reasonable steps to identify cultural features and heritage values of Thalanyji people in the EMBA.

⁴ http://www.nntt.gov.au/searchReqApps/NativeTitleClaims/NTDA%20Extracts/WC1995_002/Attachment%20A-%20Thalanyji%20Map.pdf

⁵ http://www.nntt.gov.au/searchReqApps/NativeTitleClaims/NTDA%20Extracts/WC1996_082/SNTAExtract_WC1996_082.pdf

⁶ http://www.nntt.gov.au/searchReqApps/NativeTitleClaims/NTDA%20Extracts/WC1999_045/1999_11_09%20Attachment%20B%20Map%20of%20Claim%20Area.pdf

⁷ http://www.nntt.gov.au/searchReqApps/NativeTitleClaims/NTDA%20Extracts/WC2010_004/WC2010_004%202.%20Map%20of%20Application%20Area.pdf

If further guidance from BTAC is received as part of ongoing consultation which changes Woodside's understanding of the extent of Thalanyji Sea Country, Woodside's management of change and management of knowledge processes within EPO 22 will be applied to manage potential impact to newly identified cultural values or features to ALARP and acceptable levels. This estimation does not limit the extent of consultation with BTAC or the features and values they are encouraged to identify and communicate.

4.9.4.4 Summary of cultural features and heritage values

Woodside has developed a robust understanding of cultural features and heritage values relevant to the activity through examination of publicly available information, studies and consultation with relevant persons under Regulation 25.

Table 4-20 consolidates the cultural features and heritage values identified in Section 4.9.4 and confirms whether there is any potential for these to exist within the Operational Area or EMBA. It also includes topics which have been raised in the context of an interest linked to the natural environment are impact and risk assessed in Sections 6.6, 6.7 and 6.8.

As cultural features are physical elements of a place, these can generally be assessed for impacts; where a feature is avoided, it is not impacted. Heritage values relate less to what is significant and more to why something is significant; interaction between heritage values and the Operational Area can only be reliably informed by consultation with Traditional Custodians where they are willing to share the necessary knowledge. Assessment of heritage values beyond cultural features alone is addressed in Section 6.10 subject to these caveats.

Table 4-20 Summary of cultural features and heritage values

Identified cultural features and heritage values (incl. interests)	Context	EP source			Potential for overlap	
		Consultation Feedback	First Nations archaeological heritage assessment	Desktop literature assessment	Operational Area	EMBA
Archaeological heritage						
None identified – refer to Section 4.9.4.5.						
No archaeological sites have been identified beyond terrestrial or intertidal areas, except for two sites at Murujuga in Cape Bruguieres channel and Flying Foam Passage (Benjamin et al., 2020; Benjamin et al., 2023). It is recognised that there is the potential for submerged archaeological sites on the Ancient Landscape as noted in Table 4-19.						
Intangible values						
Songlines	Consultation and desktop literature noted Dreaming tracks from locations onshore and to islands outside of the EMBA, and through the sea generally, but was not able to determine the routes of any Dreaming tracks that may extend across the submerged landscape within the Operational Area.	✓	X	✓	Possible (unspecified)	Possible (unspecified)
Creation/Dreaming sites, sacred sites and ancestral beings	Publicly available literature talks to Creation/Dreaming and ancestral beings, including water serpents, connected to or originating from the sea generally, but cannot be confirmed to relate to features within the EMBA.	✓	X	✓	Possible (unspecified)	Possible (unspecified)
Cultural obligations to care for Country	Cultural obligation to care for the environmental values of Sea Country. Exclusion of Traditional Custodians from Sea Country or decision making processes may inhibit ability to care for Country.	✓	X	✓	Possible (unspecified)	Possible (unspecified)
Knowledge of Country/customary Law and transfer of knowledge	The preservation and transmission of knowledge is dependent on the preservation of the environment generally. Exclusion of Traditional Custodians from Sea Country may inhibit the transfer of knowledge.	✓	X	✓	Possible (unspecified)	Possible (unspecified)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Identified cultural features and heritage values (incl. interests)	Context	EP source			Potential for overlap	
		Consultation Feedback	First Nations archaeological heritage assessment	Desktop literature assessment	Operational Area	EMBA
Connection to Country	Connection to Country may be damaged where people are displaced or disrupted (e.g. during colonisation) or where there is a loss of technical skills or environmental knowledge.	✓	X	✓	Possible (unspecified)	Possible (unspecified)
Access to Country	Limitations on Traditional Custodians accessing or enjoying areas of Sea Country.	✓	X	✓	Possible (unspecified)	No (no limitations on access beyond the Operational Area)
Kinship systems and totemic species	Traditional Custodians have connection to species through kinship and totemic systems. An individual may have obligation to care for or not consume a species to which they are kin.	✓	X	✓	Possible (unspecified)	Possible (unspecified)
Resource collection	Fishing, hunting, gathering of marine species.	✓	X	✓	No	Possible (unspecified)
Marine ecosystems and species						
Marine species	Generally raised in consultation and literature.	✓	X	✓	Yes	Yes
Whales	Generally raised in consultation. Thalu species of totemic importance. Linked to songlines and Dreaming stories. Humpback whales in particular.	✓	X	✓	Likely to occur (whales; Section 4.6.3)	Known to occur (whales; Section 4.6.3)
Dolphins	Cultural ceremonies associated with communicating with dolphins.	✓	X	X	May occur	May occur
Marine turtles	Culturally important species and migration. Turtles and turtle eggs as a resource. Law run through the sea, including turtles.	✓	X	✓	Likely to occur (turtles; Section 4.6.2)	Known to occur (turtles; Section 4.6.2)
Sea snakes	Culturally important species.	✓	X	X	Possible	Possible

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Identified cultural features and heritage values (incl. interests)	Context	EP source			Potential for overlap	
		Consultation Feedback	First Nations archaeological heritage assessment	Desktop literature assessment	Operational Area	EMBA
Fish (including sharks and rays)	Culturally important species. Fish as a resource. Law run through the sea, including fish. There are thalu ceremonies associated with increasing fish stocks.	✓	X	✓	Known to occur	Known to occur
Seabirds	Interest only, raised as a natural environment interest as a potential impacted receptor of impacts to water quality.	✓	X	X	May occur	May occur
Plankton	Interest only, raised as a natural environment interest.	✓	X	X	Yes	Yes
Water quality	Interest only, raised as a natural environment interest.	✓	X	X	Yes	Yes
Subtidal soft-bottom communities	Interest only, raised as a natural environment interest regarding invertebrate diversity.	✓	X	X	Yes	Yes
Marine Park	Interest only; raised in context of decommissioning activities.	✓	X	X	No	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.9.4.5 Further context: intangible cultural heritage

Intangible cultural heritage has been identified through consultation with First Nations people as culturally important. Cultural knowledge, as expressed through songlines, Dreaming, dance and other cultural practices, can be associated with tangible objects and physical sites that are culturally important to First Nations people (Adler, 2021; Bursill et al., 2007). Intangible cultural heritage can also be embodied in the practices, representations, expressions, knowledge, uses and skills associated with physical sites (United Nations Educational, Scientific and Cultural Organization (UNESCO), 2003). As a result, physical features may have intangible dimensions (ICOMOS, 2013).

4.9.4.5.1 Songlines

Oral songlines are often described by First Nations people as the Law of the land and make up part of the Dreaming (Neale & Kelly, 2020:30). Songlines are viewed in Western academia as a framework for relating people to land and consist of a series of invisible, interconnected routes across the landscape that mark significant sites for First Nations people (Higgins, 2021:723). Songlines demonstrate First Nations peoples' strong connections to land by revealing sacred knowledge that is place-specific (Roberts, 2023:5). The land's physical features are instrumental in maintaining songlines because this is how ancestral spirits journeyed through, and interacted with, the physical landscape leaving sacred knowledge behind. The interconnection between the physical and spiritual is where songlines become intrinsically tied to significant places across Country. As a result, geographical landforms are recorded within songlines and become sacred places. Such landforms can include inter alia: rocks, mountains, rivers, caves and hills (Higgins, 2021:724). Songlines can become lost, fragmented or broken when there is a loss of Country or forced removal from Country (Neale & Kelly, 2020:30). Physical sites that have been identified as comprising a component of a songline are important to protect to prevent the fragmenting or breaking apart of songlines and loss of sacred cultural knowledge.

In Australia, songlines can stretch thousands of kilometres, making up a complex and organic network of stories containing cultural knowledge of First Nations communities across the land (Neale & Kelly, 2020:35). Songlines can also extend out to Sea Country and contain cultural knowledge that is tied to geographic features, atmospheric phenomena and marine plants and animals. Often songlines containing references to a seascape or Sea Country make mention of mythical events occurring around marine life, fishing areas, submerged rocks or coral. Songlines that embody seascapes can reflect how a group may relate to, or value, Sea Country – for example connections to nearby islands that they once inhabited in their songlines (Smyth & Isherwood, 2016:307). Songlines can also be used as proof of long-standing connection to land and support a legal entitlement to land rights (Higgins, 2021:74). Examples where songlines contain strong references to Sea Country are more common in Pacific Islander and Torres Strait Islander communities, who often refer to seascapes and skylines in their songlines in order to communicate sacred knowledge that assists in safe navigation of the ocean (Neale & Kelly, 2020:83–84).

The routes of any songlines in the EMBA have not been provided by Traditional Custodians through consultation.

4.9.4.5.2 Creation/Dreaming sites, sacred sites and ancestral beings

The only sources located by Woodside with detailed descriptions of the location ancestral beings or Creation, Dreaming or other sacred sites placed these on land or within inland water sources such as rivers or pools. However, some ancestral beings are noted to live within or originate from the sea generally, and some creation stories talk to the creation of features from or in the sea. Additionally, every place on shore or at sea must be assumed to have been created on some level in First Nations cosmology.

4.9.4.5.3 Cultural obligations to care for Country

Caring for Country collectively refers to the cultural obligations of individuals and groups, as well as rituals and ceremonies required for the physical and spiritual health of the environment. In the literature reviewed by Woodside, caring for Country was noted to include, but is not limited to, maintenance of the physical environment and ecosystem. It may also have cultural, spiritual and ritual dimensions such as caring for ancestral beings or ensuring cultural safety. Thalu are places where increase ceremonies are performed to enhance or maintain populations of plants, animals or phenomena. All mentions of active ceremonial sites were confined to onshore locations, though the values may extend offshore where e.g. a thalu relates to marine species populations.

4.9.4.5.4 Knowledge of Country/customary Law and transfer of knowledge

Knowledge of and familiarity with the features of Sea Country is itself a value. The inherent potential for restricted or secret knowledge makes this difficult to assess even through consultation with Traditional Custodians. However, aspects such as limitations on access to sites or disruption/relocation of First Nations communities may have implications for the preservation of First Nations knowledge. Further, connection to Country may be damaged where people are displaced or disrupted (e.g. during colonisation) or where there is a loss of technical skills or environmental knowledge (McDonald & Phillips, 2021).

Transfer of knowledge includes continuing traditional practices to pass on practical skills. This transfer of knowledge may be integral to managing a group's intangible cultural heritage (UNESCO, 2003).

4.9.4.5.5 Connection to Country

Connection to Country describes the multi-faceted relationship between First nations people and the landscape, which is envisioned as having personhood and spirit. It is also an aspect of personal identity for many First nations people. In the case of Sea Country this can mean identifying as a Saltwater person, where *“essence of being a ‘Saltwater’ person is ontological... it is about how people relate spiritually to the sea and engage with spiritual forces that created it, the marine flora and fauna and people”* (McDonald & Phillips, 2021).

4.9.4.5.6 Access to Country

Access to Country, including Sea Country, is necessary for the continuation of other values including caring for Country and the transfer of traditional knowledge. Being on Country can be an important way of expressing or maintaining connection to Country (Australian Indigenous HealthInfoNet, n.d.). Access is also a value in its own right, as a continuation of traditional Sea Country access and use.

4.9.4.5.7 Kinship systems and totemic species

Individuals may have kinship to specific species (Smyth, 2008; Juluwarlu, 2004) and/or a responsibility to care for species (Muller, 2008). Kinship arises from totemic associations within First Nations “skin group” systems. It is forbidden for an individual to kill or eat a species who is from the same “skin group” (Juluwarlu, 2004). They may also have certain obligations linked to the discussion of caring for Country below. It is assumed that marine species may have kinship/totemic relationships to Traditional Custodians, but it is understood that these relationships do not prohibit people outside of that “skin group” from hunting or eating that same species (Juluwarlu, 2004).

4.9.4.5.8 Resource collection

A number of marine species are identified through consultation and literature as important resources, particularly as food sources. In addition to their immediate value as sustenance, the gathering and preparation of these resources are informed by cultural knowledge, and an inability to use these resources may result in a loss of ability to transfer that knowledge to future generations.

4.9.4.6 Further context: marine ecosystems and species

4.9.4.6.1 Marine mammals

Whales, and in particular humpback whales, have been identified through consultation with First Nations people as culturally important species, with totemic importance including their populations, biodiversity, and migration patterns. Cultural ceremonies associated with communicating with dolphins have also been raised by MAC through consultation.

Whale symbology expressed through stories, music, and dance can reflect a group's connections with the sea, as well as marine fauna, which then comprise a group's cultural values (Ardler, 2023; Bursill et al., 2007; Cressey, 1998). Whales also speak to a broader connection that exists between First Nation people and their surrounding environment. Beyond mythology and symbolism, whales can be connected with various economic and social functions associated with everyday life. Cultural knowledge of whales, whale migration, behaviour and the related marine environment may all be important in ensuring the continuation of these socio-economic functions and other related activities that remain valuable to First Nations people (Fijn, 2021:47).

Details pertaining to whales and dolphins, their distribution, migration patterns and populations are described in Section 4.6.3, with further details in Appendix J (Master Existing Environment).

4.9.4.6.2 Marine reptiles

Turtles and sea snakes have been identified through consultation with First Nations people as culturally important species, with turtles identified as a resource. First Nations people that identify marine reptiles as species of totemic importance or integral to songlines may place high cultural value on their protection. No marine reptiles -related songlines have been identified as per Section 4.9.4.5 that have the potential to interact with the Operational Area or EMBA. Note the only songline related to marine reptiles (turtles) was shared by MAC, and was geographically restricted from Fortescue to Withnell Bay, in Mermaid Sound (MAC, 2021).

Turtle symbology expressed through stories, music, and dance can reflect an individual or group's connections with the sea, as well as marine fauna, and comprise First Nations' cultural values (Ardler, 2023; Bursill et al., 2007). Beyond mythology and symbolism, turtles can be connected with various economic and social functions associated with everyday life including hunting and settlement location. Turtles speak to a broader connection that exists between First Nation people and their surrounding environment, including cultural values associated with food security (Delisle et al., 2018:250).

Cultural knowledge of turtles at a population level (turtle migration, behaviour and the related marine environment) may all be important in ensuring the continuation of cultural functions and activities that remain valuable to First Nations people (Fijn, 2021:47; Delisle et al., 2018). Details pertaining to marine reptiles, their distribution, and populations are described in Section 4.6.2, with further details in Appendix J (Master Existing Environment).

4.9.4.6.3 Fish

Fish have been identified through consultation with First Nations people as a culturally important species, with fish generally being identified as a resource.

First Nations may identify cultural values associated with fish species as important to maintaining both tangible (physical cultural sites) and intangible (cultural knowledge) cultural heritage. Tangible cultural heritage associated with fish can include important cultural sites such as midden sites, fish traps and thalu sites. Traditional fish traps require traditional knowledge of the surrounding environment and may involve specialised techniques which have been developed in adaptation to location conditions over time (Fijn, 2021:63).

Intangible cultural heritage associated with fish include songlines, Dreaming, art, song and dance. Cultural values relating to fish, and other marine fauna, can collectively capture 'Sea Country' which refers to a seascape that Traditional Custodians view, interact with or hold knowledge of. As a result, fish may be culturally value in relationship with broader marine environmental values that are of cultural importance to First Nations people (Smyth, 2007).

Details pertaining to fish, sharks and rays are described in Section 4.6.1, with further details in Appendix J (Master Existing Environment).

4.9.4.6.4 Natural environment interests

First Nations people have advised through consultation that they have a general interest in environmental management and ecosystem health, including understanding changes in water quality as a result of the Petroleum Activity and potential resultant effects on marine species and benthic communities in the Operational Area and EMBA. This includes marine mammals, marine reptiles, fish, seabirds, plankton and subtidal soft bottom communities, which are described in context of their distribution and populations in Section 4.6, with further details in Appendix J (Master Existing Environment).

4.9.5 Heritage listed places

No listed World, National or Commonwealth Heritage places overlap the Operational Area.

A search of the Australasian Underwater Cultural Heritage (UCH) database, which records all known Maritime Cultural Heritage (shipwrecks, aircraft, relics and other UCH) in Australian waters indicated that there are no underwater heritage sites or shipwrecks within the Operational Area.

Within the EMBA there are three World Heritage properties, 11 National Heritage places and 16 Commonwealth Heritage places; these are all listed in Table 4-22. There are also 25 recorded shipwrecks within the EMBA, listed in Table 4-21.

Also, within the EMBA, Ningaloo Reef, Exmouth and the adjacent coastline have a long history of occupancy by Aboriginal communities. The longstanding relationship between Aboriginal people and the land and sea is prevalent in Indigenous culture today and Indigenous heritage places, including archaeological sites, are protected under the *Aboriginal Heritage Act 1972* (WA) or EPBC Act.

For this EP, a Department of Planning, Lands and Heritage search was undertaken, which indicated a number of registered Indigenous heritage places in the EMBA (Appendix D). The exact location, access, and traditional practices for a number of these sites are not disclosed and if required, such as in the event of a major oil spill, would involve prioritising further consultation with key contacts within WA Department of Aboriginal Affairs and relevant local Aboriginal communities.

Woodside understands that there is no Indigenous archaeology known to exist anywhere within Commonwealth waters.

4.9.5.1 Historic sites of significance

There are no known sites of historic heritage significance within the Operational Area. Appendix J describes cultural heritage sites within the EMBA.

4.9.5.2 Underwater Heritage

A search of the Australian National Shipwreck Database which records all known Maritime Cultural Heritage (shipwrecks, aircraft, relics and other UCH) in Australian waters indicated that there are no sites within the Operational Area. However, numerous shipwrecks exist within the EMBA. Table 4-21 lists shipwrecks within 50 km of the Operational Area.

Table 4-21: Recorded shipwrecks within the EMBA

Vessel name (ID number)	Year wrecked	Latitude	Longitude
Gem (4144)	1893	-21.61666667	113.98333333
Beatrice (3731)	1899	-21.61666667	113.98333333
Emlyn Castle (4037)	1960	-21.78472167	114.165
Mildura (4516)	1907	-21.784092	114.167735
Lady Ann (4359)	1983	-21.400000	114.200000
Veronica (5061)	1928	-21.683333	114.383333
Fairy Queen (4088)	1875	-21.817150	114.189117
Nellie (4567)	1893	-21.750000	114.083333
Kapala (4318)	1964	-21.750000	114.083333
Ellen (4021)	1893	-21.750000	114.083333
Wild Wave (5112)	1875	-21.750000	114.083333
Sea Queen (4788)	1893	-21.750000	114.083333
Ruby (4749)	1893	-21.750000	114.083333
Lily of the Lake (4403)	1875	-21.750000	114.083333
Unidentified Lugger (5001)	1893	-21.750000	114.083333
Elizabeth (4013)	1893	-21.750000	114.083333
Bell (3736)	1893	-21.750000	114.083333
Agnes (3623)	1893	-21.750000	114.083333
Leave (4385)	1893	-21.750000	114.083333
Lamareaux (4369)	1893	-21.750000	114.083333
Mabel (4427)	1893	-21.750000	114.083333
Smuggler (4824)	1893	-21.750000	114.083333

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Vessel name (ID number)	Year wrecked	Latitude	Longitude
Pearl (4628)	1896	-21.750000	114.083333
Olive (4598)	1893	-21.750000	114.083333
Florence (4111)	1893	-21.750000	114.083333

4.9.5.3 World, National and Commonwealth Heritage listed places

No listed heritage places overlap the Operational Area. World, National and Commonwealth Heritage places within the EMBA are identified in Table 4-22. Appendix J outlines the values and sensitivities of these places. Credible risks and impacts as a result of unplanned events from the Petroleum Activity are considered in Section 6.8.

Table 4-22: World Heritage properties and National/Commonwealth Heritage listed places within the EMBA

Listed place	Distance and direction from Operational Area to listed place (km)
World Heritage properties	
Ningaloo Coast	8.6 km south-east
Shark Bay, WA	357 km south-west
Murujuga Cultural Landscape	254 km north-east
National Heritage places	
Ningaloo Coast	8.6 km south-east
Barrow Island and the Montebello-Barrow Islands Marine Conservation Reserves	128.2 km north-east
Dampier Archipelago (including Burrup Peninsula)	256.9 km north-east
Shark Bay, WA	357.4 km south-west
Dirk Hartog Landing Site 1616 – Cape Inscription Area	445.3 km south-west
His Majesty's Australian Ship Sydney II and HSK Kormoran Shipwreck Sites	578.1.2 km south-west
Batavia Shipwreck Site and Survivor Camps Area 1629 – Houtman Abrolhos	761.4 km south-west
The West Kimberley	855.4 km north-east
Christmas Island Natural Areas	1,503.1 km north-west
Cape Riche	1,517.1 km south-east
Great Western Woodlands of WA	1,641.9 km south-east
Commonwealth Heritage places	
Ningaloo Marine Area – Commonwealth waters	8.5 km south-east
Learmouth Air Weapons Range Facility	92.6 km south-west
His Majesty's Australian Ship Sydney II and HSK Kormoran Shipwreck Sites	578.1 km south-west
Mermaid Reef – Rowley Shoals	746 km north-east
Lancelin Defence Training Area	1,030.2 km south-east
Scott Reef and Surrounds – Commonwealth Area	1146 km north-east
Ashmore Reef National Nature Reserve	1,384.4 km north-east
Cape Leeuwin Lighthouse	1,420.5 km south-east

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Listed place	Distance and direction from Operational Area to listed place (km)
Christmas Island Natural Areas	1,505.2 km north-west
Phosphate Hill Historic Area	1,514.1 km north-west
Bungalow 702	1,515.1 km north-west
Drumsite Industrial Area	1,515.1 km north-west
Industrial and Administrative Group	1,515.3 km north-west
Settlement Christmas Island; Malay Kampong Precinct; Malay Kampong Group; Poon Saan Group	1,515.5 km north-west
Administrators House Precinct	1,515.5 km north-west
South Point Settlement Remains	1,520.7 km north-west

4.9.5.3.1 Murujuga Cultural Landscape

The Murujuga Cultural Landscape (MCL) World Heritage property, located approximately 254 km north-east of the Operational Area on the Burrup Peninsula in WA, was officially inscribed on the UNESCO World Heritage List in July 2025. The MCL holds immense cultural and spiritual significance to Traditional Owners and is relevant to heritage values in the broader region. The World Heritage property encompasses approximately 100,000 hectares and includes 42 islands, islets, and rocky outcrops within the Dampier Archipelago, as well as parts of the adjacent mainland (DCCEEW, 2025). Murujuga is internationally recognised for its outstanding cultural heritage, particularly as home to the most extensive and dense concentration of petroglyphs (rock engravings) known globally.

The MCL is inscribed under Cultural Criterion i, iii and v which are reflective of the outstanding universal values (OUVs). The OUVs of the Murujuga Cultural Landscape World Heritage property include:

- Petroglyphs demonstrate artistic achievement assembled over 50,000 years. The petroglyphs are visually outstanding, demonstrate technical skill, and represent multiple phases in the development of regional and local styles.
- The MCL bears testimony to the living cultural traditions of Ngarda-Ngarli and the spiritual relationship between people and landscape that is at least 50,000 years old.
- The MCL is an outstanding example of human interaction with the environment over at least 50,000 years. The landscape is patterned by this long-term presence persisting through irreversible environmental and climatic changes.

Estimates suggest there are up to two million individual petroglyphs across the landscape, many of which are believed to be tens of thousands of years old, representing one of the world's longest continuous records of human artistic and cultural expression (DBCA, 2025). The petroglyphs depict a wide range of subjects, including human figures, animals, marine life, and symbolic motifs. Murujuga is also deeply significant to the Traditional Owners, including the Ngarda-Ngarli peoples, and forms part of an ongoing cultural connection to Country through language, Law, ceremony and custodianship.

Further information on the MCL can be found on the publicly available UNESCO World Heritage listing⁸.

Woodside supports the ongoing management of heritage values under listings including Murujuga Cultural Landscape World Heritage listing, Murujuga National Park and Dampier Archipelago (Including Burrup Peninsula) National Heritage place.

Safeguarding the MCL and its relevant outstanding universal values are considered under a number of relevant management plans, including:

- Murujuga National Park Management Plan (2013, as amended in 2023)
- The Murujuga Cultural Management Plan (2016)
- Murujuga Cultural Landscape Strategic Management Framework (2022).

⁸ <https://whc.unesco.org/en/list/1709>.

As part of its commitment to supporting World Heritage, where relevant, Woodside provides the necessary research and support information required by MAC and the State to ensure the protection and conversation of the OUV of MCL. Additionally, Woodside actively provides funding to the Murujuga Land and Sea Unit to assist in its ongoing management of Country and Sea Country associated with the MCL.

Woodside recognises that the management plans give effect to the duties and obligations of Australia under the World Heritage Convention and help facilitate the protection, conservation, presentation or transmission to future generations of the World Heritage values of the property. Consequently, by being not inconsistent with the management plans Woodside demonstrates that its action is not inconsistent with Australian World Heritage management principles and therefore the World Heritage Convention.

4.10 Socio-cultural environment

4.10.1 Commercial fisheries

A number of Commonwealth and State fishery management areas are located within the Operational Area and EMBA. Fish Cube data were requested to analyse the potential for interaction of fisheries with the Operational Area, which was used to determine consultation with WA State-managed fisheries that may be impacted by proposed petroleum activities (Department of Primary Industries and Regional Development (DPIRD), 2020).

Table 4-23 provides an assessment of the potential interaction and Appendix J provides further detail on the fisheries that have been identified through desk-based assessment and consultation (Section 5).

Figure 4-18 to Figure 4-20 show fisheries identified as having a potential interaction with the Petroleum Activity.

Table 4-23: Commonwealth and State managed commercial fisheries overlapping the Operational Area and/or EMBA

Fishery	Potential for interaction		
	Operational Area	EMBA	Description
Commonwealth managed fisheries			
North West Slope Trawl Fishery	✓	✓	The North West Slope Trawl Fishery management area overlaps the Operational Area and the EMBA. Between one to six vessels have been active in the fishery since 2005. Fishery Status Reports indicate most recent activity inside the EMBA occurred in the 2020–2021 season (Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), 2021). Accordingly, Woodside considers it a possibility that interactions with the fishery may occur in the combined EMBA.
Western Deepwater Trawl Fishery	✗	✓	The Western Deepwater Trawl Fishery management area overlaps the EMBA. Based on Fishery Status Reports the fishery may be active within the EMBA with recent activity during the 2020–2021 season (ABARES, 2021). Accordingly, Woodside considers it a possibility that interactions with the fishery may occur in the combined EMBA.
Western Tuna and Billfish Fishery	✓	✓	The Western Tuna and Billfish Fishery spans the Australian Fishing Zone west of Victoria and the Torres Strait. However, in the last five years (2016 to 2021), fishing effort has concentrated south of Carnarvon (ABARES, 2021). Accordingly, Woodside considers it a possibility that interaction with this fishery and the Petroleum Activity.
Northern Prawn Fishery	✗	✓	The Northern Prawn Fishery extends from Cape York, across the Gulf of Carpentaria to Cape Londondern, past the border between WA and Northern Territory. The majority of the fishing during the 2020–2021 season takes place around the coast of Northern Territory (ABARES, 2021).
Southern Bluefin Tuna Fishery	✓	✓	The Southern Bluefin Tuna Fishery management area overlaps the Operational Area and EMBA, spanning the entire Australian Fishing Zone. Since 1992, the vast majority of Australian catch effort have been concentrated in south-eastern Australian waters (ABARES, 2021). Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activity.
Western Skipjack Fishery	✓	✓	The Western Skipjack Tuna Fishery spans the Australian Fishing Zone west of Victoria and the Torres Strait. The fishery is not currently active and no fishing has occurred since 2009 (ABARES, 2021). Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activity.
Small Pelagic Fishery	✗	✓	The Small Pelagic extends from the QLD/NSW border around to the 31° south latitude line near Lancelin, Perth. The management area is split into western, eastern and sardine subareas. Fishery Status Reports indicate the maximum area fished between 2020 and 2021 occurred outside of the EMBA (ABARES, 2021). Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activity
Christmas Island Line Fishery	✗	✓	The Christmas Island Line Fishery management area overlaps the EMBA. There have been no reported active vessels for the fishery across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Potential for interaction		
	Operational Area	EMBA	Description
Southern and Eastern Scalefish and Shark Fishery Great Australian Bight Trawl Sector	✖	✓	The Southern and Eastern Scalefish and Shark Fishery: Great Australian Bight Trawl Sector extends along the south coast of WA and SA to Kangaroo Island. Fishery Status Reports indicate the maximum area fished between 2020 and 2021 occurred outside of the EMBA (ABARES, 2021). Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activity.
State managed fisheries			
Abalone Managed Fishery (Area 3-8)	✓	✓	The Abalone Managed Fishery management area overlaps the Operational Area (Area 8) and EMBA (Area 3-8). The fishery is only active within the EMBA, with 60NM Catch and Effort System (CAES) block reporting three to 15 registered vessels for Greenlip and Brownlip Abalone Fishery. More recently, active vessel numbers were three to 10 across the 2021–2022 seasons (Strain et al., 2023a). Due to the water depths of the Operational Area at 200m, there is no potential for interaction with the fishery in the Operational Area, given the fishery method. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Abrolhos Islands and Mid-West Trawl Managed Fishery	✖	✓	The Abrolhos Islands and Mid-West Trawl Fishery management area overlaps the EMBA. The fishery is only active within the EMBA, with 60 NM CAES block reporting between three and six vessels across the 2017 to 2022 seasons (Kangas et al., 2023b), with no active vessels in the 2021–2022 financial year. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Cockburn Sound Managed Fishery	✖	✓	The Cockburn Sound (Crab) Fishery management area overlaps the EMBA. The Cockburn Sound Crab Managed Fishery has been closed since 2014 (Johnston et al., 2020). If the fishery were to resume, Woodside only considers it a possibility that interactions with the fishery would occur only in the EMBA.
	✖	✓	The Cockburn Sound (Fish Net) Fishery management area overlaps the EMBA. There have been no reported active vessels for the fishery across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
	✖	✓	The Cockburn Sound (Line and Pot) Fishery management area overlaps the EMBA. The fishery is only active within the EMBA, with 60 NM CAES block reporting between six and eight, consistently active vessels across the 2017–2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
	✖	✓	The Cockburn Sound (Mussel) Fishery management area overlaps the EMBA. There has been no reported catch in the period between 2014 and 2022 (DPIRD, 2023). If the fishery were to resume, Woodside only considers it a possibility that interactions with the fishery would occur only in the EMBA.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Potential for interaction		
	Operational Area	EMBA	Description
Exmouth Gulf Beach Seine and Mesh Net Managed Fishery	✖	✓	The Exmouth Gulf Beach Seine and Mesh Net Managed Fishery management area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting <three active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Exmouth Gulf Prawn Managed Fishery	✖	✓	The Exmouth Gulf Prawn Managed Fishery management area overlaps the EMBA. The fishery is only active within the EMBA, with 60 NM CAES block reporting 6 consistently active vessels across the 2017 to 2022 seasons (DPIRD, 2023). The CAES reporting block overlaps the Operational Area (indicating fishing effort within the Operational Area), the fishery is limited to the spatial extent within the Exmouth Gulf and Muiron Islands. Therefore, Woodside only considers it a possibility that interactions with the fishery may occur only in the EMBA.
Gascoyne Demersal Scalefish Fishery	✖	✓	The Gascoyne Demersal Scalefish Fishery management area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting between three and 12 active vessels across the 2017 to 2022 seasons (DPIRD, 2023). FishCube data reported no fishing effort at 10 NM CAES blocks overlapping the Operational Area (DPIRD, 2022). Woodside considers there to be potential for interaction with the fishery within the EMBA.
Joint Authority Southern Demersal Gillnet and Demersal Longline Fishery	✖	✓	The Joint Authority Southern Demersal Gillnet and Demersal Longline Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting between three to 11 active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Kimberley Crab Managed Fishery	✖	✓	The Kimberly Crab Fishery management area overlaps the EMBA. The fishery is active in the EMBA, with an allocation of 1,200 units (600 traps) to licence holders and an equivalent allocation of 600 traps to Traditional Owner groups, with seven people employed in the 2021–2022 season (Johnston et al., 2023). Accordingly, Woodside considers there to be a potential for interaction with this fishery in the EMBA.
Kimberley Gillnet and Barramundi Fishery	✖	✓	The Kimberley Gillnet and Barramundi Fishery management area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting <three active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Kimberley Prawn Managed Fishery	✖	✓	The Kimberley Prawn Fishery management area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting three to 14 active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Woodside considers there to be potential for interaction with the fishery in the EMBA.
Mackerel Managed Fishery	✓	✓	The Mackerel Managed Fishery overlaps the Operational Area and EMBA. FishCube data for the Mackerel Managed Fishery is not provided at the 10 NM scale; however, effort reported in the 60 NM CAES block reporting between three and seven active vessels across the 2017 to 2022 seasons (DPIRD, 2023), with fishing effort consistent in the years since 2012. Woodside considers there may be potential for interaction with the fishery in the Operational Area and EMBA.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Potential for interaction		
	Operational Area	EMBA	Description
Marine Aquarium Fish Managed Fishery	✓	✓	The Marine Aquarium Fish Managed Fishery overlaps the Operational Area and EMBA. FishCube data for the Marine Aquarium Fish Managed Fishery is not provided at the 10 NM scale; however, effort reported in the 60 NM CAES block reporting between three and five active vessels across the 2017 to 2022 seasons (DPIRD, 2023), with fishing effort consistent in the years since 2017. The Marine Aquarium Fish Managed Fishery generally collects fish for display in water depths <30 m. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Nickol Bay Prawn Limited Entry Fishery	✗	✓	The Nickol Bay Prawn Limited Entry Fishery management area overlaps the EMBA. The fishery is active in the EMBA, with 60 NM CAES block reporting between three and eight active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
North Coast Shark Fishing	✓	✓	The North Coast Shark Fishing area overlaps the Operational Area and the EMBA. The northern shark fisheries comprise of the North Coast Shark Fishery in the Pilbara and Western Kimberly (closed since 1998), and the Joint Authority of Northern Shark Fishery in the eastern Kimberley, which has not been active since the 2008–2009 season (Australian Fisheries Management Authority (AFMA), 2021). Therefore, Woodside considers there to be no interaction with the fishery and the Petroleum Activity.
Northern Demersal Scalefish Managed Fishery	✗	✓	The Northern Demersal Scalefish Fishery management area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting between three and seven active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Octopus Interim Managed Fishery	✗	✓	The Octopus Interim Managed Fishery management area overlaps the EMBA. The fishery is active within the EMBA, 60 NM CAES block reporting between three and nine active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Onslow Prawn Limited Entry	✗	✓	The Onslow Prawn Limited Entry Fishery management area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting <three active vessels across the 2017 to 2022 seasons (DPIRD, 2023). The CAES reporting block for the fishery overlaps the Operational Area (indicating fishing effort within the Operational Area); however, the fishery is limited to the spatial extent and boundaries of the fishery. At the nearest point the fishery could only be active at a distance >45 km from the Operational Area. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Open Access in the North Coast	✗	✓	The Open Access in the North Coast Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting between three and seven active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Potential for interaction		
	Operational Area	EMBA	Description
Pearl Oyster Managed Fishery	✓	✓	The Pearl Oyster Managed Fishery management area overlaps the Operational Area and the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting between three and six active vessels across the 2017 to 2022 seasons (DPIRD, 2023). At the nearest point the fishery could only be active at a distance >45km from the Operational Area. The Pearl Oyster Managed Fishery fishing effort is mostly focused in coastal waters (10 to 15 m depth) with a maximum depth of 35 m (Lulofs et al., 2002). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Pilbara Crab Managed Fishery	✓	✓	The Pilbara Crab Managed Fishery management area overlaps the Operational Area and the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting <three active vessels across the 2017 to 2022 seasons (DPIRD, 2023). The Pilbara Crab Managed Fishery covers inshore waters (<50 m) from Onslow to Port Headland, with most activity around Nickol Bay (Johnston et al., 2020). However, areas of the fishery north and east of Exmouth and nearshore are currently closed as per Schedule 2 of the Draft Management Plan for the Pilbara Crab Managed Fishery (DPIRD, 2018b). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Pilbara Fish Trawl (Interim) Managed Fishery	✓	✓	The Pilbara Fish Trawl (Interim) Managed Fishery area overlaps the Operational Area and EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting between three and four active vessels across the 2017 to 2022 seasons (DPIRD, 2023). The Pilbara Fish Trawl (Interim) Managed Fishery is divided into 2 zones and an area governed by Schedule 5 (prohibited to trawling) (Newman et al., 2020). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Pilbara Line Fishery	✓	✓	The Pilbara Line Fishery licencees are permitted to operate anywhere within Pilbara waters (Newman et al., 2021), overlapping the Operational Area and EMBA. The fishery is active in the EMBA, with one 60 NM CAES block reporting up to five licences across the 2017 to 2022 seasons (DPIRD, 2023). FishCube data for the Pilbara Line Fishery is not provided at the 10 NM scale. Therefore, Woodside considers it a possibility that interactions with the fishery may occur within the Operational Area and/or EMBA.
Pilbara Trap Fishery	✓	✓	The Pilbara Trap Fishery management area overlaps the Operational Area and EMBA. The fishery is active with the overlapping 60 NM CAES block reporting up <three vessels across the 2017 to 2022 seasons (DPIRD, 2023). FishCube data for the Pilbara Trap Fishery is not provided at the 10 NM scale. Fishing effort at this level has been consistent over the previous 10-year catch report. Therefore, Woodside considers it a possibility that interactions with the fishery may occur in the Operational Area and/or EMBA.
Shark Bay Crab Managed Fishery	✗	✓	The Shark Bay Crab Managed Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting between 17 and 23 consistently active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
Shark Bay Prawn Managed Fishery	✗	✓	The Shark Bay Prawn Managed Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting between 16 and 18 active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Potential for interaction		
	Operational Area	EMBA	Description
Shark Bay Scallop Managed Fishery	✖	✓	The Shark Bay Scallop Managed Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting up to 24 active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
South Coast Crustacean Managed Fishery	✖	✓	The South Coast Crustacean Managed Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting up to five active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
South Coast Estuarine Managed Fishery	✖	✓	The South Coast Estuarine Managed Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting up to 13 active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
South Coast Line and Fish Trap Managed Fishery	✖	✓	The South Coast Line and Fish Trap Managed Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting up to 19 active vessels across the 2021–2022 season (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
South Coast Nearshore Net Managed Fishery	✖	✓	The South Coast Nearshore Net Managed Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting up to 10 active vessels across the 2021–2022 season (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
South Coast Purse-Seine Managed Fishery	✖	✓	The South Coast Purse-Seine Managed Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting up to six active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
South Coast Salmon Managed Fishery	✖	✓	The South Coast Salmon Managed Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting up to four active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
South West Coast Beach Net Fishery	✖	✓	The South West Coast Net Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting up to nine active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
South West Coast Salmon Managed Fishery	✓	✓	The South West Coast Salmon Fishery management area overlaps the Operational Area and the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting up to three active vessels across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
South West Trawl Fishery	✖	✓	The South West Trawl Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting <three active vessels across the 2017 to 2022 seasons (DPIRD, 2023), with fishing effort consistent during this time. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Potential for interaction		
	Operational Area	EMBA	Description
Specimen Shell Managed Fishery	✓	✓	The Specimen Shell Managed Fishery management area overlaps the Operational Area and EMBA. The fishery is active within 60 NM CAES block overlapping the Operational Area, with <three licences active during the 2019 to 2022 seasons. FishCube data reported <three licences at the 10 NM CAES block overlapping the Operational Area (DPIRD, 2023), with the only activity occurring for a duration of four months in the 2017–2018 season. Although there is overlap with the Operational Area and the CAES reporting block, given the depth and offshore location of the Operational Area and the collection methods of the fishery, it is highly unlikely interactions would occur. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
West Coast (Beach Bait Fish Net) Managed Fishery	✖	✓	The West Coast (Beach Bait Fish Net) Managed Fishery area overlaps the EMBA. The fishery is active within the EMBA, with 60 NM CAES block reporting <three active vessels across the 2017 to 2022 seasons (DPIRD, 2023), with fishing effort consistent during this time. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
West Coast Blue Swimmer Crab Fishery	✖	✓	The West Coast Blue Swimmer Crab Fishery overlaps the EMBA. There have been no reported active vessels for the fishery across the 2017 to 2022 seasons (DPIRD, 2023). Therefore, Woodside considers it a possibility that if any interactions occur with the fishery, they would only occur within the EMBA.
West Coast Deep Sea Crustacean Managed Fishery	✓	✓	The West Coast Deep Sea Crustacean Managed Fishery is permitted to fish in waters deeper than the 150 m isobath, overlapping the Operational Area and EMBA. The fishery may be active in the Operational Area with one 60 NM CAES block reporting less than three vessels in the 2021–2022 season (DPIRD, 2023). FishCube data reported no fishing effort at 10 NM CAES blocks in the last five years overlapping the Operational Area (DPIRD, 2023). Woodside considers there to be potential for interaction with the fishery in the Operational Area or EMBA.
West Coast Demersal Gillnet and Demersal Longline	✖	✓	The West Coast Demersal Gillnet and Demersal Longline Fishery area overlaps the EMBA. The fishery is active in the EMBA with 60 NM CAES block with up to four active vessels across the 2017 to 2022 seasons (DPIRD, 2023), with fishing effort consistent during this time. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
West Coast Demersal Scalefish (Interim) Managed Fishery	✖	✓	The West Coast Demersal Scalefish (Interim) Managed Fishery area overlaps the EMBA. The fishery is active in the EMBA with 60 NM CAES block with up to 16 active vessels across the 2017 to 2022 seasons (DPIRD, 2023), with fishing effort consistent during this time. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
West Coast Estuarine Managed Fishery	✖	✓	The West Coast Estuarine Managed Fishery area overlaps the EMBA. The fishery is active in the EMBA with 60 NM CAES block with up to 11 active vessels across the 2017 to 2022 seasons (DPIRD, 2023), with fishing effort reducing to seven vessels in the 2020-2022 seasons. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Potential for interaction		
	Operational Area	EMBA	Description
West Coast Purse Seine Fishery	x	✓	The West Coast Purse Seine Fishery area overlaps the EMBA. The fishery is active in the EMBA with 60 NM CAES block with up to four active vessels across the 2017 to 2022 seasons (DPIRD, 2023), with fishing effort reducing to <3 vessels in the 2018-2022 seasons. Therefore, Woodside considers it a possibility that interactions with the fishery may occur only in the EMBA.
West Coast Rock Lobster Fishery	x	✓	The Western Rock Lobster Fishery management area overlaps the EMBA (DPIRD 2023). The fishery is active in the EMBA with 60 NM CAES block with up to 94 active vessels across the 2017 to 2022 seasons (DPIRD, 2023), Vessel numbers in the fishery have steadily declined over the five-year period with up to 80 and 74 vessels active during the 2020 and 2022 seasons respectively. Accordingly, Woodside considers there to be no potential for interaction with this fishery and the Petroleum Activity.
Other			
Tour operators	✓	✓	Fishing tour operators are permitted to operate across WA state waters and are required to report monthly logbook records of client fish catches. FishCube data reports consistent fishing effort across the 60 NM CAES block that overlaps the EMBA (DPIRD, 2023). Fishing effort was reported by a maximum of 12 licence holder during the 2018–2019 season, with licence numbers varying between <three and 12 overall during the 2017 to 2022 seasons (DPIRD, 2023). FishCube data reported <three active tour operators at 10 NM CAES blocks overlapping the Operational Area (DPIRD, 2023), which were only active during the 2020–2021 period. FishCube data indicate tour operator fishing effort was highest around Ningaloo and Muiron Islands and at Barrow Island and the Montebello Islands, east of the EMBA. Woodside considers there to be potential for interaction with the fishery in the Operational Area or EMBA.

✓ = overlap with fishery; blue shading = possibility for interaction.

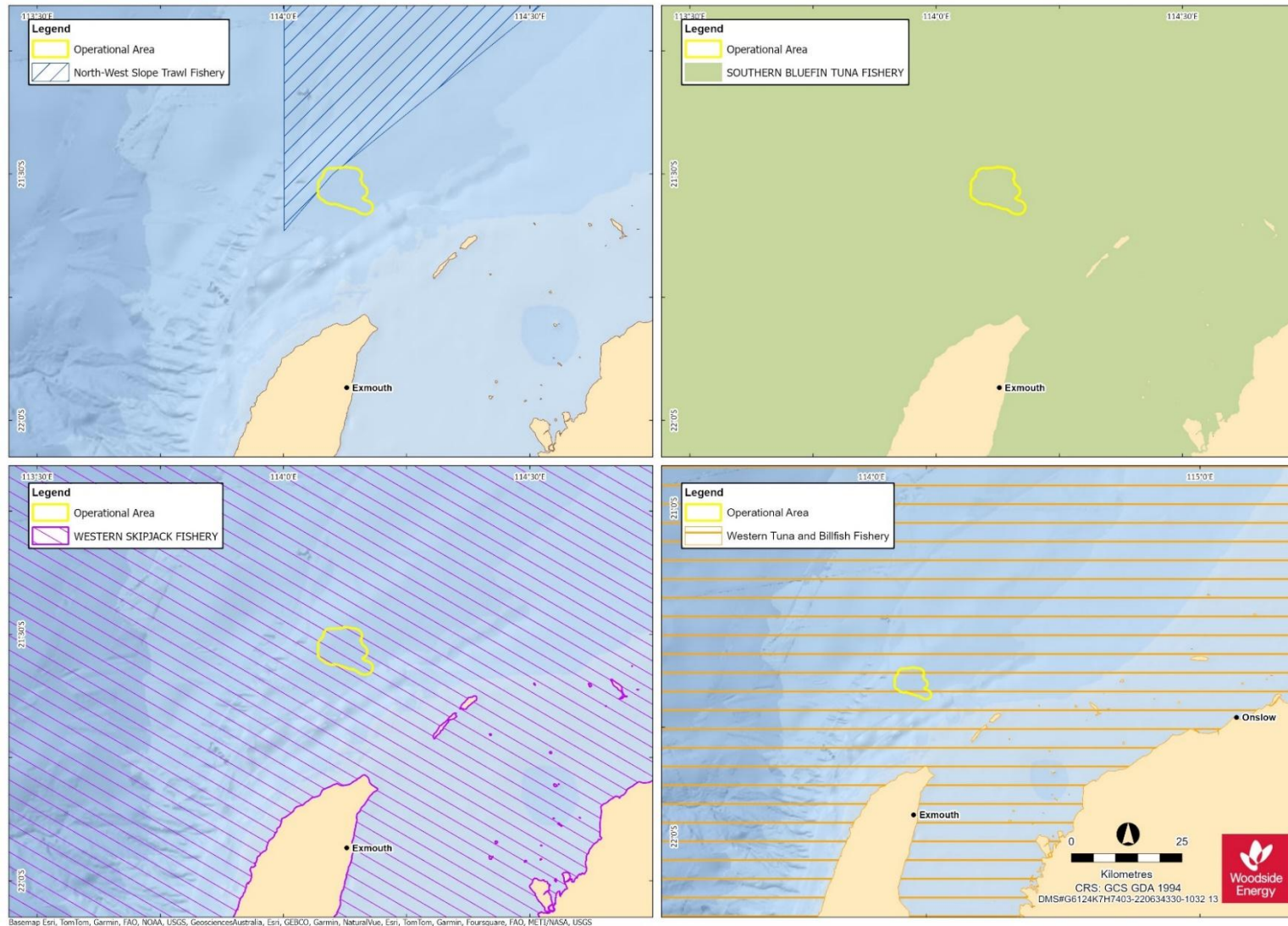


Figure 4-18: Commonwealth-managed commercial fisheries overlapping the Operational Area with the potential for interaction with the Petroleum Activity

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

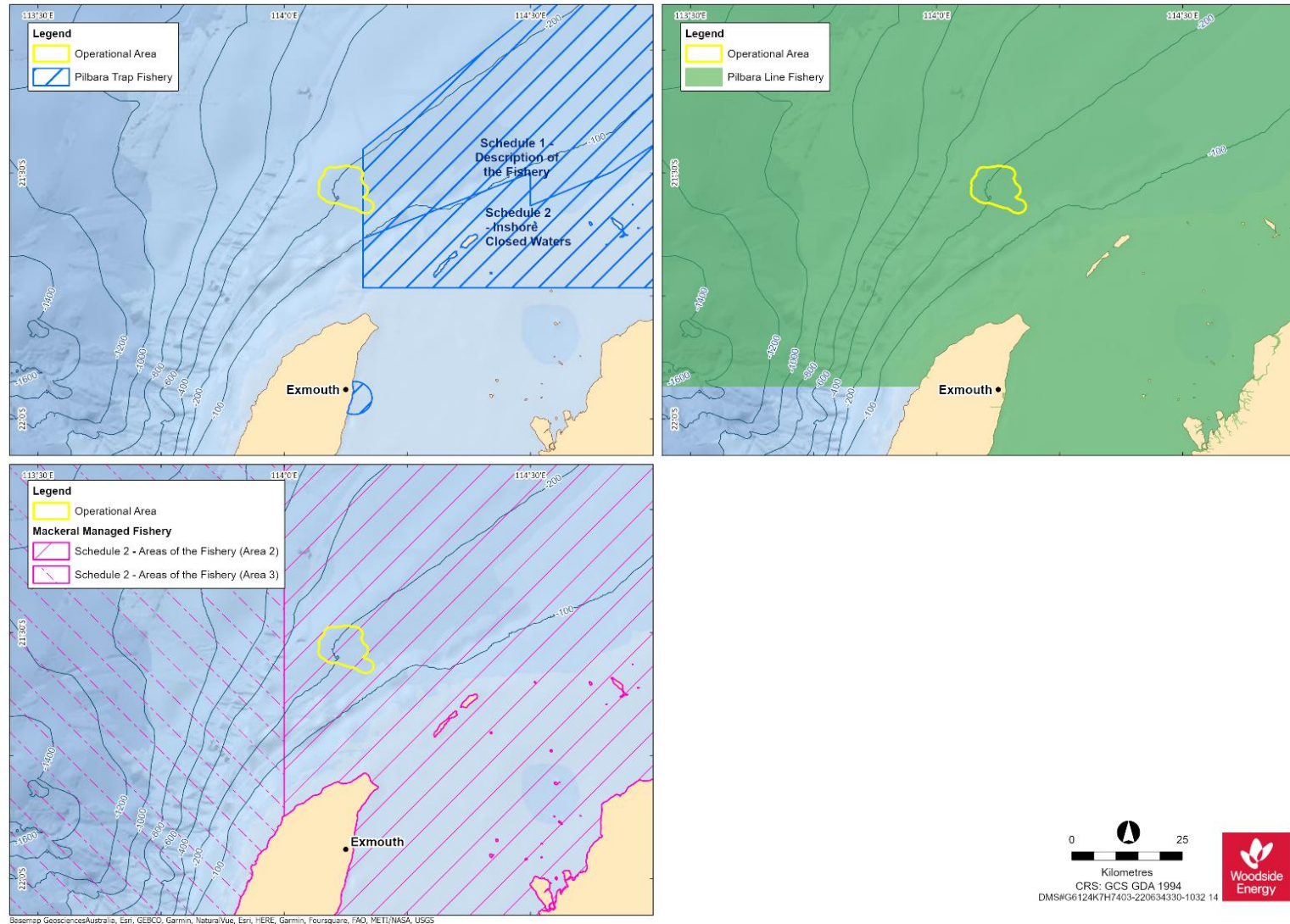


Figure 4-19: State-managed commercial fisheries overlapping the Operational Area with the potential for interaction with the Petroleum Activity

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

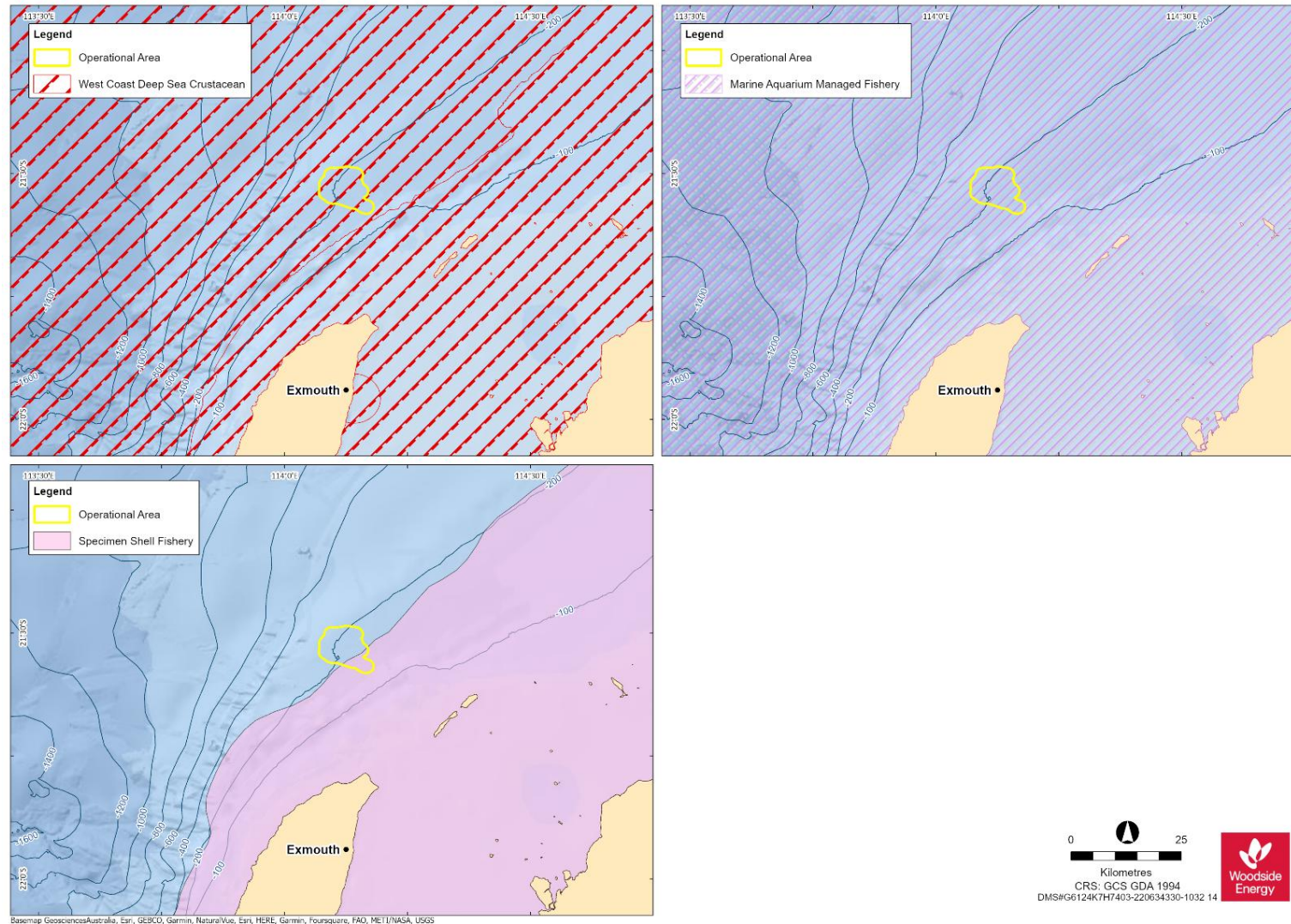


Figure 4-20: State-managed commercial fisheries overlapping the Operational Area with the potential for interaction with the Petroleum Activity (continued from Figure 4-19)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.10.2 Traditional fisheries

A key feature of the NWMR is the large tidal range in this part of the Australian coast with daily fluctuations up to 12 m, resulting in vast areas of intertidal land and reef flats available for marine resource harvesting (Smyth, 2007). Further, the tidal range also results in strong tidal currents, especially between islands and at the entrance to embayments that First Nations people used to travel long distance on rafts and canoes between mainland and the reefs and islands (Smyth, 2007). There are no traditional or customary fisheries within the Operational Area, as these are typically restricted to shallow coastal waters and/or areas with structures such as reefs. However, it is recognised that Barrow Island, Montebello Islands and Ningaloo Reef, all within the wider EMBA, have a known history of fishing when areas were occupied (as from historical records) (Department of Conservation and Land Management, 2005).

A Memorandum of Understanding was established with Indonesian fisheries for parts of the Australia Fishing Zone and Continental Shelf (MoU 74). Currently, Scott Reef is the principal reef in the MoU 74 box. This MoU allows Indonesian fishers to participate in traditional fishing activities using traditional methods and is used seasonally. The Operational Area is located outside of the MoU 74 box; however, it is overlapped by the EMBA (Appendix J).

4.10.3 Tourism and recreation

Year end March 2023 WA saw 11.7 million overnight (domestic and international) visitors who contributed \$15.9 billion into the economy, \$7.3 billion of which was spent in regional WA (Tourism Research Australia, 2023):

- Australia's South West accounted for approximately \$3.1 billion
- Australia's Coral Coast accounted for approximately \$1.1 billion
- Australia's North West accounted for approximately \$1.9 billion
- Australia's Golden Outback accounted for approximately \$1.1 billion (Tourism WA, 2023).

The Operational Area is located offshore of the North West tourism region which includes parts of the Gascoyne region, the Pilbara region, the Kimberley region. Tourism is concentrated in the vicinity of population centres such as Broome, Dampier, Exmouth, Coral Bay and Shark Bay. Population centres closest to the Operational Area are the towns of Onslow (~97 km east) and Exmouth (~45 km south). Onslow is a coastal town offering easy access to tourists, vacationers and recreational fishers to the Mackerel Islands, a group of 10 islands at 22 km offshore. Exmouth has become a significant tourist centre with Cape Range National Park, Ningaloo Marine Park and adjacent inshore waters. In 2018–2019, the Ningaloo region (Ningaloo Reef and the surrounding coastal region Exmouth Gulf, communities of Exmouth and Coral Bay, and adjacent proposed southern coastal reserves and pastoral leases) contributed an estimated \$110 million in value added to the WA economy (DCBA, 2020).

Peak tourism in the North West occurs from April to October coinciding with winter or the dry season. Marine-based activities are typically concentrated around infrastructure such as boat ramps and camping areas (Smallwood, 2009). Marine facilities, including boat launching ramps, jetties, marinas, etc, near the Operational Area are limited, with most located along the Exmouth Gulf side of the peninsula, including:

- Port of Onslow, Beadon Creek
- Point Murat naval supply jetty (restricted access)
- Bundegi – facilities include a concrete launching ramp, car park and public toilets
- Exmouth Marina – provides launching, mooring, fuelling and supply facilities for commercial fishing, charter fishing, tourist and commercial/private vessels.

Boat ramps on the Ningaloo side are located at:

- Tantabiddi Creek – facilities include a concrete launching ramp, car park and public toilets
- Coral Bay – concrete launching ramp.

Recreational fisheries and charter boat operators are managed by the WA DPIRD. With an estimated 753,000 people fishing recreationally in WA, it makes a significant contribution to the economy and attracts vast numbers of visitors to the region each year (DPIRD, 2025). The Ningaloo Marine Park (~9 km from the

Operational Area) also provides high-quality fishing for species such as spangled emperor, Spanish mackerel and coral trout. The Muiron Islands are ~19 km from the Operational Area and are used recreationally for swimming, snorkelling and scuba diving. Further, the Montebello Islands are ~197 km from the Operational Area and are used for similar recreational activities including camping, fishing, diving and boating.

4.10.4 Commercial shipping

AMSA has introduced a network of marine fairways across the NWMR off WA to reduce the risk of vessel collisions with offshore infrastructure. The Pyrenees Venture FPSO Operational Area within petroleum licences WA-42-L and WA-43-L lies outside of these declared and charted shipping fairways.

Refer to Appendix J for shipping information in the EMBA and Figure 4-21 for vessel density within the Operational Area and EMBA.

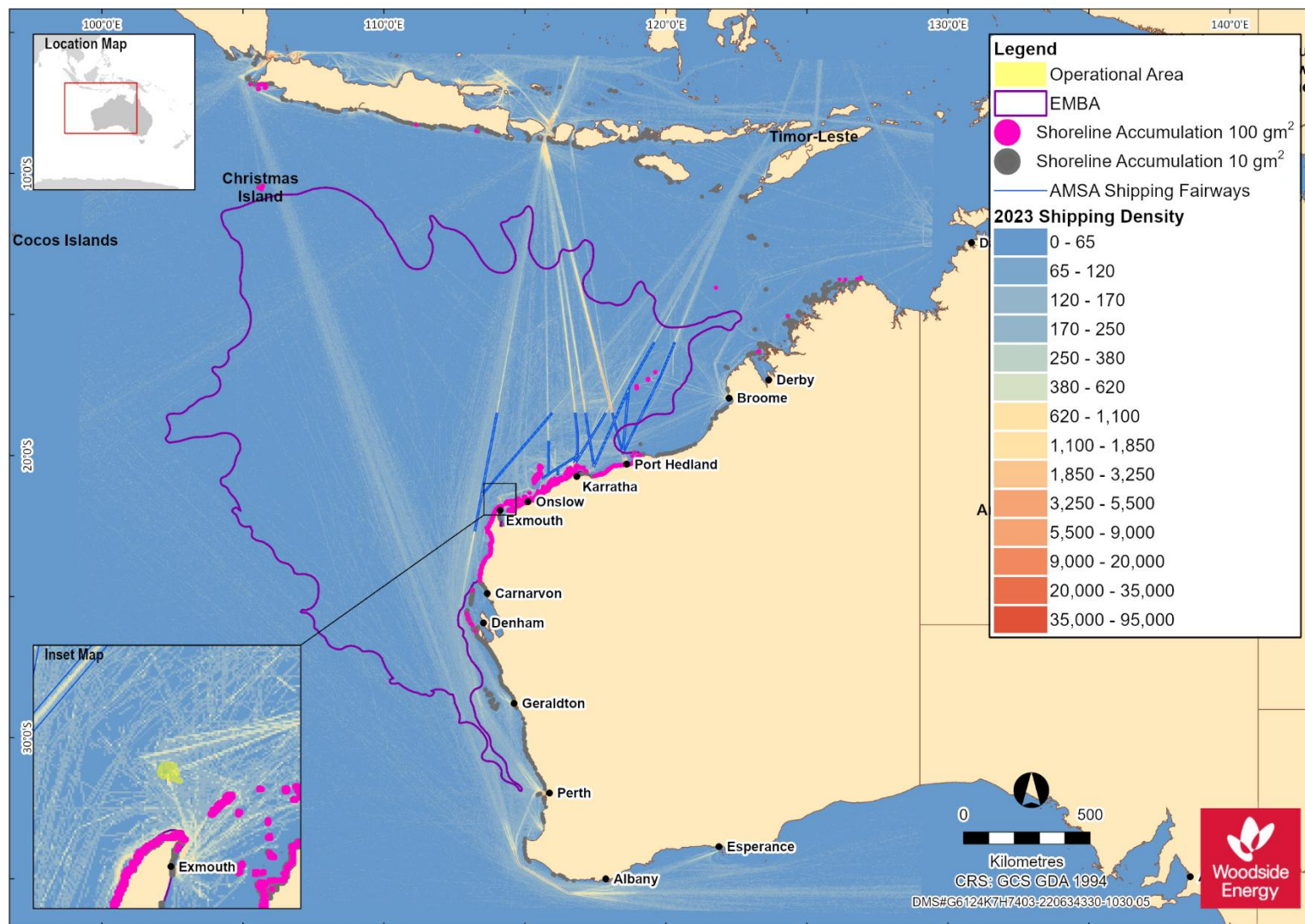


Figure 4-21: Vessel density map for the Operational Area and EMBA, derived from Australian Maritime Safety Authority satellite tracking system data (vessels include cargo, liquefied natural gas tanker, passenger vessels, support vessels and others/unnamed vessels)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.10.5 Oil and gas

The Operational Area is located within an area of established oil and gas operations within the NWMR. Table 4-24 and Figure 4-22 detail other oil and gas facilities located within 50 km of the Operational Area. Appendix J describes current oil and gas development within the EMBA.

Table 4-24: Other oil and gas facilities located within 50 km of the Operational Area

Facility name and operator	Approximate distance and direction from Operational Area (km)
Woodside Macedon Subsea Gas Field	Macedon Operational Area overlaps the Pyrenees Operational Area
Woodside Ngujima-Yin FPSO (Vincent Development)	6.6 km south-east
Woodside Stybarrow Field (in the process of being decommissioned ⁹)	27 km north-west
Santos Van Gogh/Coniston/Novara Development (Ningaloo Vision FPSO)	9.4 km south

⁹ Decommissioning of the Stybarrow field is managed under two accepted Environment Plans: 1) Stybarrow Decommissioning and Field Management Plan, accepted 8 Jan 2024; 2) Stybarrow End State Decommissioning Environment Plan, accepted 23 May 2024.

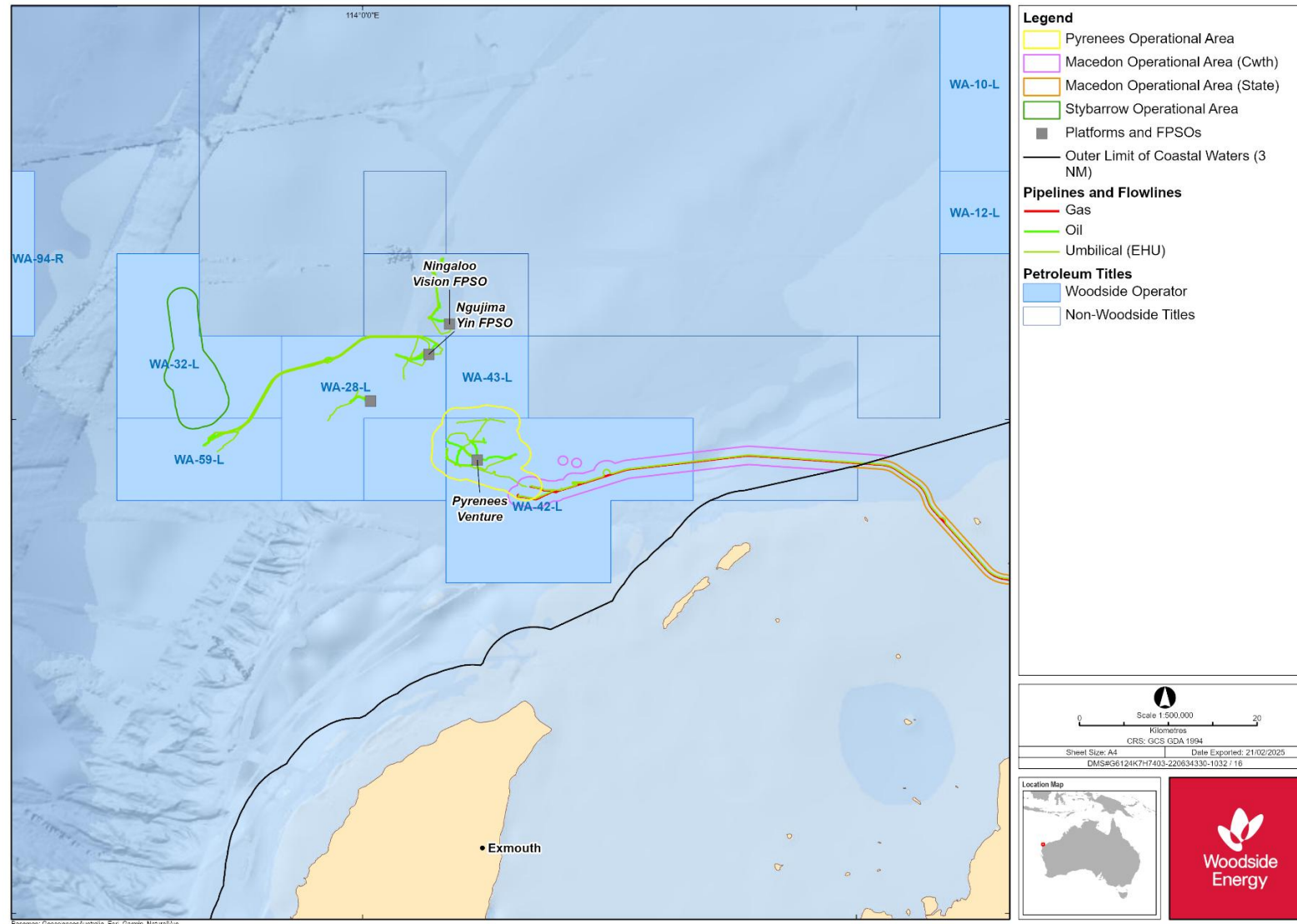


Figure 4-22: Oil and gas infrastructure within and near the Operational Area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4.10.6 Defence zones

Department of Defence areas, facilities and unexploded ordnances (UXOs) overlapping the Operational Area and EMBA are outlined in Table 4-25 and presented in Figure 4-23. Appendix J describes key Department of Defence areas and facilities.

Table 4-25: Defence areas, facilities and unexploded ordnances overlapping the Operational Area and/or EMBA

Defence area/facility	Presence	
	Operational Area	EMBA
Learmonth Air Weapons Range Facility		✓
Learmonth air training area (associated with the Learmonth Air Weapons Range Facility)	✓	✓
Naval Communications Station Harold E. Holt		✓
UXO SDG096 Sea Dumping: Anchor Island. This site is an area used for the dumping at sea of ordnance and other items.		✓
Potential Depth Charge UXO DEP022: Northwest of Bessieres Island. This site was an area where depth charges were used in World War II and where some depth charges failed to function.		✓
UXO 793 and 794: Exmouth Gulf: Prior to World War II, Royal Australian Navy bombarded both land and sea targets on and near the peninsula		✓
UXO 1018: Exmouth Gulf: Allied World War II base high explosive ordnances were stored and fired		✓
UXO 1019: Exmouth Gulf: Aerial bombing in the Rough Range area during World War II. Two depth charges were lost overboard in the Bay of Rest area. Artillery fired on land and sea targets.		✓
UXO 940: Onslow. Anti-aircraft artillery live firing practices using high explosive ammunition during WWII. Aerial bombing also highly likely.		✓
Potential Depth Charge UXO DEP027: East of Montebello Islands. This site was an area where depth charges were used in World War II and where some depth charges failed to function.		✓
UXO SDG082: Sea Dumping – Ningaloo. This site is an area used for the dumping at sea of ordnance and other items.		✓
UXO SDG129 Sea Dumping – Indian Ocean. This site is an area used for the dumping at sea of ordnance and other items.		✓
Geraldton Seaward – artillery fired seaward during World War II and small quantities of high explosive ammunition were dumped at sea off Geraldton during the 1950s		✓
Oakajee Air Gunnery Range Geraldton – danger area shown seaward of coast. Probable ordnance impacted on land.		✓
Rangeway – live fire anti-armour exercises.		✓
Narngulu – areas most likely to contain UXO are the sand dunes to the west, south west and south of Meru		✓
Separation Point – artillery unit fired from vicinity of Wonthella to beach area of Separation Point in 1942		✓
Mouth of Greenough River and Southgate Dunes – artillery and anti-armour firings into sand dunes		✓
Jurien Bay Bombing Range – high explosive aerial bombing and strafing		✓
UXO SDG097 Sea Dumping – Coastal WA – Nambung. Area used for the dumping at sea of ordnance and other items.		✓
Flat Rock – area used since 1940 as a high explosive bombing target		✓

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Defence area/facility	Presence	
	Operational Area	EMBA
Wedge Island – Royal Australian Air Force/Allied Air Forces used Wedge Island as an aerial bombing target during World War II		✓
Ran Gunnery Range Lancelin – area of ocean west of current Naval Gunnery Range		✓
Lancelin Moore River Artillery Range – used as a high explosive target area by Army from World War II until 1975		✓
Moore River Royal Australian Air Force Armament Range – used as Royal Australian Air Force air to air gunnery training area		✓
Rottnest Seaward Firing – site is one of many that was used for dumping at sea of ammunition and other items after World War II		✓
Cockburn Sound Seawards Firing – World War II live firing of mortars. Post World War II use by army firing 81 mm high explosive ammunition, anti-armour rockets and grenades		✓
UXO Sea Dumping sites west of Rottnest Island. Area used for the dumping at sea of ordnance and other items. SDG090, SDG092, SDG117, SDG114, SDG113, SDG118, SDG100, SDG115, SDG098, SDG119, SDG086, SDG124, SDG120, SDG084, SDG094, SDG095, SDG083		✓
Potential Depth Charge UXO North West of Rottnest Island: DEP024, DEP028, DEP029		✓

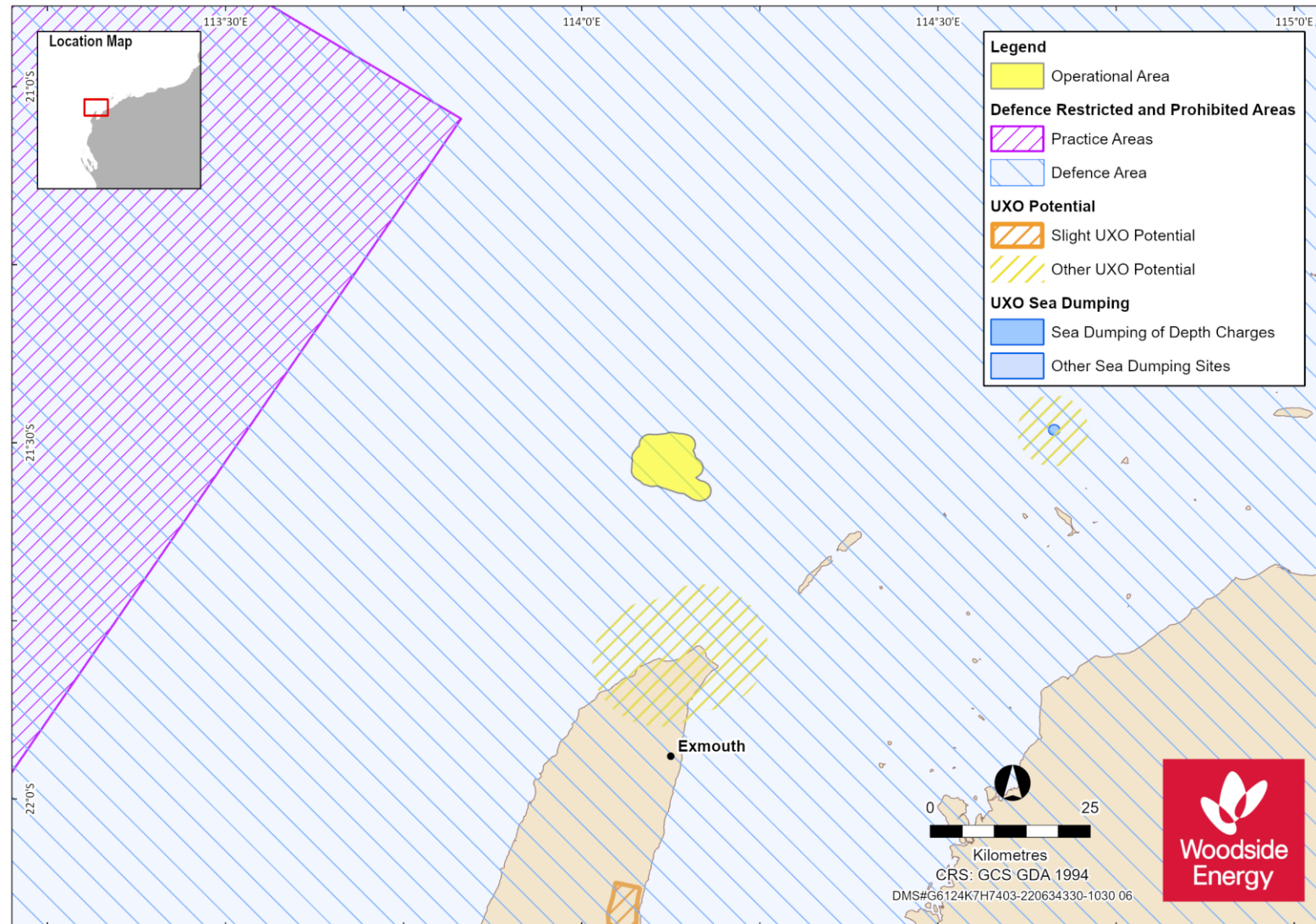


Figure 4-23: Defence areas within and adjacent to the Operational Area

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

5 CONSULTATION

5.1 Summary

Woodside consults relevant persons in the course of preparing an EP in accordance with Regulation 25 of the Environment Regulations.

The consultation process is designed to identify relevant persons and provide them with sufficient information and a reasonable period to allow them to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities. This enables Woodside to assess the merits of objections or claims about the adverse impact of each activity to which the EP relates that are received from relevant persons and for Woodside to adopt appropriate measures (if any) in response to those objections or claims so that the activity is carried out in a manner by which the environmental impacts and risks of the activity will be reduced to ALARP and will be of an acceptable level.

Consultation is informed by both the Environment Regulations and the findings of relevant Courts, including the Federal Court of Australia (FCA) – Full Court (FCAFC) in the Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 (Tipakalippa Appeal) (see Section 5.2 and 5.5.5) and Munkara v Santos NA Barossa Pty Ltd (No 3) [2024] FCA 9 (Munkara Case).

For this EP, Woodside has considered both the Operational Area and the broader EMBA in undertaking consultation (see further discussion in Section 5.2). The broadest extent of the EMBA has been determined by reference to the highly unlikely event of a hydrocarbon release resulting from activities in the Operational Area (see Section 4).

Woodside's consultation methodology is divided into two parts:

- The first section (Section 5.2 to 5.5) provides an overview of Woodside's consultation methodology for its EPs, including how we apply Regulation 25(1) of the Environment Regulations to identify relevant persons.
- The second section (Section 5.6 to Section 5.7) details Woodside's approach to accepting feedback and assessment of the merits of each objection and claim about the adverse impact of each activity to which the EP relates, and engaging in ongoing consultation for this EP.

Woodside's consultation record is at Appendix F and includes a summary of the:

- assessment and identification of relevant persons
- consultation information provided to relevant persons, feedback received, Woodside's assessment of the merits of objections or claims and Woodside's response to relevant persons and other stakeholders Woodside chose to consult
- engagement with persons or organisations that Woodside chose to contact who are not relevant persons for the purposes of Regulation 25(1) of the Environment Regulations (see Section 5.3.7)
- opportunities provided to persons or organisations to participate in consultation.

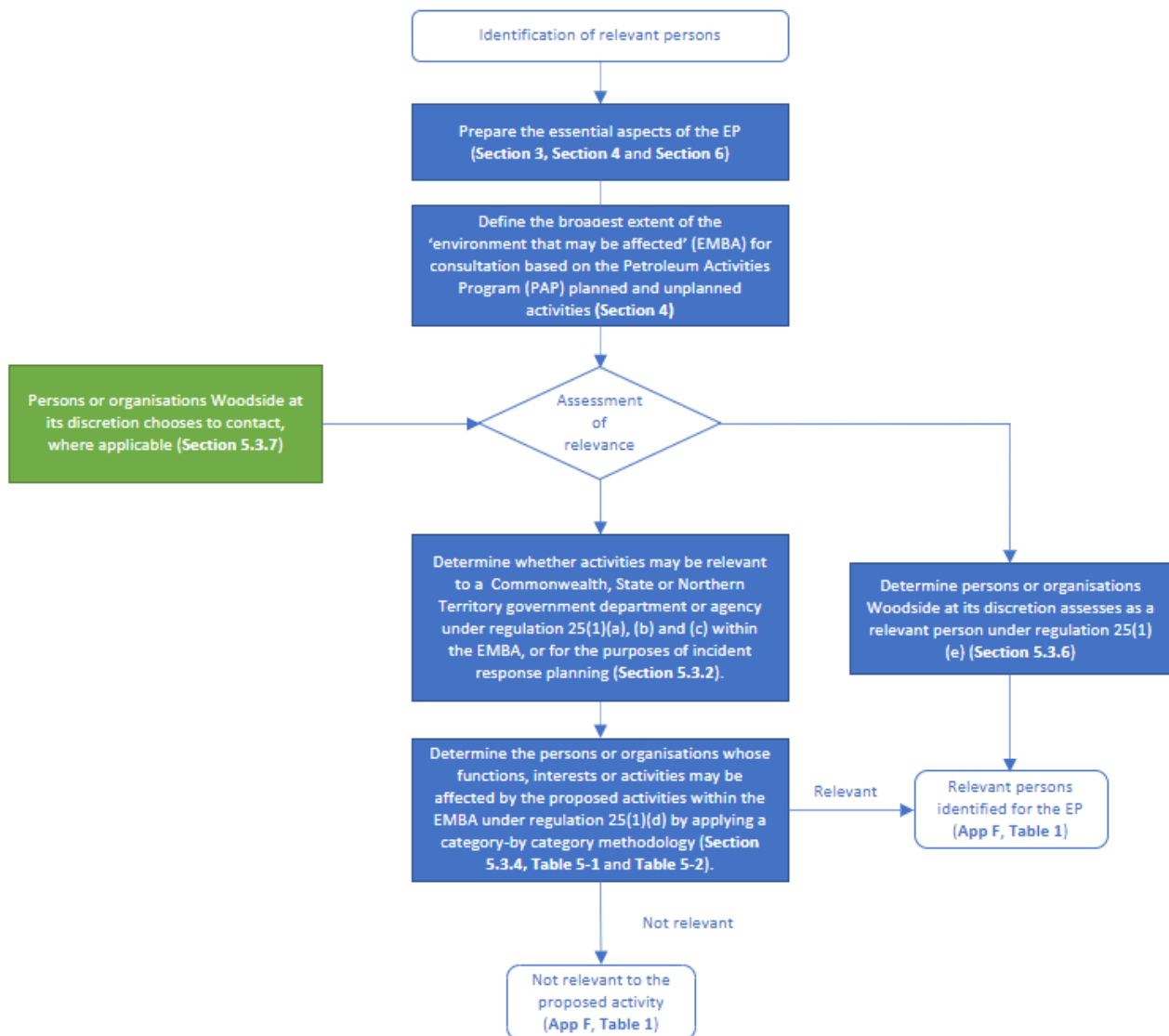


Figure 5-1: Overview of Woodside’s methodology to identify relevant persons

5.2 Consultation – general context

Woodside has a portfolio of quality oil and gas assets and more than 40 years of operating experience. We have a strong history of working with local communities, the relevant regulators and a broad range of persons and organisations, to better understand the potential risks and impacts associated with our proposed activities and to develop appropriate measures to manage them.

The length of time that we have operated in Commonwealth and State waters, and the history of continued engagement with a wide range of persons and organisations enables Woodside to develop an extensive consultation list to inform its consultation process. This consultation list is not used as a definitive list of persons to consult, but rather, assists Woodside as an input to its understanding of relevant persons with whom to consult on a Petroleum Activity. The information in the consultation list has been captured from years of experience – it contains insights relating to the type of information particular persons or organisations want to receive during consultation, the appropriate method of consultation for relevant persons and includes appropriate contact details, which are reviewed and updated periodically.

Woodside acknowledges NOPSEMA's Guideline on Consultation in the course of preparing an environment plan (May 2023) as well as judicial guidance in the Tipakalippa Appeal on the intent of consultation as follows:

- At paragraph 54 of the appeal decision: *...provide a basis for NOPSEMA's considerations of the measures, if any, that a titleholder proposes to take or has taken to lessen or avoid the deleterious effect of its proposed activity on the environment, as expansively defined.*
- At paragraph 89 of the appeal decision: *...its purpose is to ensure that the titleholder has ascertained, understood and addressed all the environmental impacts and risks that might arise from its proposed activity. Consultation facilitates this outcome because it gives the titleholder an opportunity to receive information that it might not otherwise have received from others affected by its proposed activity. Consultation enables the titleholder to better understand how others with an objective stake in the environment in which it proposes to pursue the activity perceive those environmental impacts and risks. As the regulations expressly contemplate, it enables the titleholder to refine or change the measures it proposes to address those impacts and risks by taking into account the information acquired through the consultations. Objectively, the scheme intends that this is likely to improve the minimisation of environmental impacts and risks from the activity.*

The Tipakalippa Appeal and Munkara Case have also been further considered in the context of specific methods for consultation with First Nations relevant persons (Section 5.5.5).

To undertake consultation, Woodside has developed a methodology for identifying relevant persons, in accordance with Regulation 25(1) of the Environment Regulations (Section 5.3). This methodology is consistent with NOPSEMA's guideline and demonstrates that, to meet the requirements of Regulation 34 of the Environment Regulations (criteria for EP acceptance) when preparing the EP, Woodside understands:

- our planned activities in the Operational Area, being the area in which our planned activities are proposed to occur (see Section 3.3.1)
- the geographical extent to which the environment may be affected by risks and impacts from our activities (unplanned) (identified in Section 4.1 and assessed in Section 6).

Woodside has undertaken consultation in the course of preparing this EP in compliance with Regulation 25 of the Environment Regulations, which requires a titleholder to:

- consult with each of the following (a relevant person) in the course of preparing an EP:
 - each Commonwealth, State or Northern Territory agency or authority to which the activities to be carried out under the EP may be relevant
 - if the plan relates to activities in the offshore area of a state – the department of the responsible State Minister
 - if the plan relates to activities in the principal Northern Territory offshore area – the department of the responsible Northern Territory Minister
 - a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP
 - any other person or organisation that the titleholder considers relevant (Regulation 25(1) of the Environment Regulations)
- give each relevant person sufficient information to allow the relevant person to make an informed assessment of the possible consequences of the activity on their functions, interests or activities (Regulation 25(2))
- allow a relevant person a reasonable period for the consultation (Regulation 25(3))
- tell each relevant person that the titleholder consults with, that the relevant person may request that particular information it provides in the consultation not be published and any information subject to such a request is not to be published (Regulation 25(4)).

Further, Woodside seeks to carry out consultation in a manner that:

- is consistent with the principles of ESD set out in section 3A of the EPBC Act – see Section 2
- is intended to reduce the environmental impacts and risks from the activity to ALARP and an acceptable level (Regulation 4 of the Environment Regulations)
- is intended to minimise harm to the relevant person and the environment from the proposed petroleum activities and to enable Woodside to consider measures that may be taken to mitigate the potential adverse environmental impacts from the Petroleum Activity
- is collaborative – Woodside respects that for a relevant person, consultation is voluntary; where the relevant person seeks to engage, Woodside engages with the relevant person with the aim of seeking genuine and meaningful two-way dialogue
- provides opportunities for relevant persons to provide feedback throughout the life of the EP through its ongoing consultation process (refer to Section 5.7 and Section 7.15).

An overview of Woodside's consultation approach is outlined at Figure 5-2.

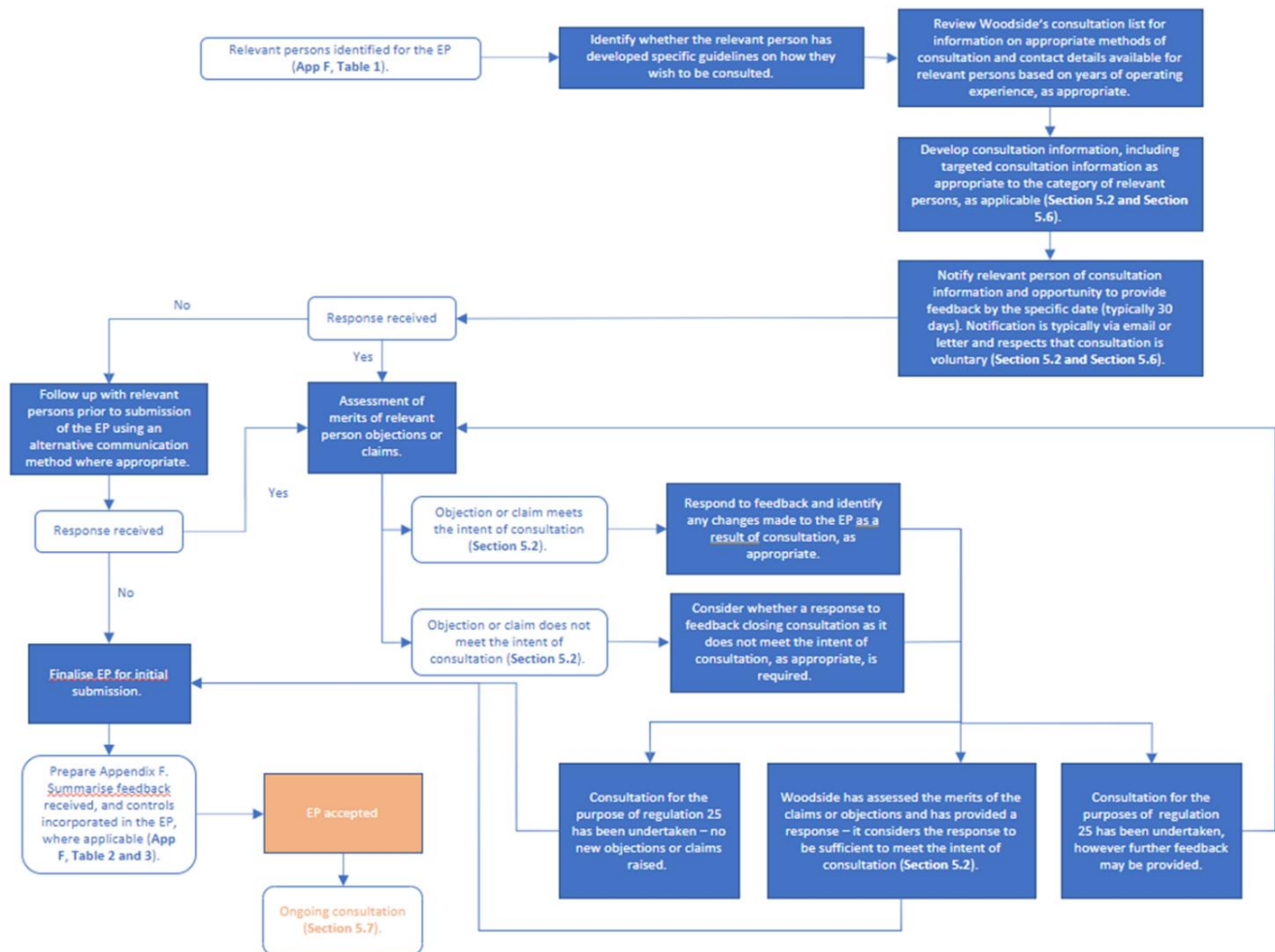


Figure 5-2: Overview of Woodside's consultation approach

The methodology for consultation for this activity has been informed by various guidelines and relevant information for consultation on planned activities, including:

Federal Court:

- [Santos NA Barossa Pty Ltd v Tipakalippa \[2022\] FCAFC 193](#)
- [Munkara v Santos NA Barossa Pty Ltd \(No 3\) \[2024\] FCA 9](#)

NOPSEMA:

- [GL2086 – Consultation in the course of preparing an environment plan – May 2023](#)
- [GN1344 – Environment plan content requirements – September 2020](#)
- [GL1721 – Environment Plan decision making – January 2024](#)
- [GN1488 – Oil pollution risk management – July 2021](#)
- [GN1785 – Petroleum activities and Australian Marine Parks – January 2024](#)
- [GL 1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2024](#)
- [PL9028 Managing gender-restricted information – December 2023](#)
- [Consultation on offshore petroleum environment plans – Information for the community](#)

DCCEEW:

- [Sea Countries of the North-West; Literature review on Indigenous connection to and uses of the North West Marine Region](#)

AFMA:

- [Petroleum industry consultation with the commercial fishing industry](#)

Commonwealth Department of Agriculture, Fisheries and Forestry:

- [Fisheries and the Environment – Offshore Petroleum and Greenhouse Gas Act 2006](#)
- [Offshore Installations Biosecurity Guide](#)

WA DPIRD:

- [Guidance statement for oil and gas industry consultation with the Department of Fisheries](#)

WA Department of Transport and Major Infrastructure (DTMI):

- [Offshore Petroleum Industry Guidance Note](#)

WA Fishing Industry Council (WAFIC):

- [Oil and Gas Consultation Framework](#)

Good practice consultation:

- [IAP2 Public Participation Spectrum](#)
- [Interim Engaging with First Nations People and Communities on Assessments and Approvals under the Environment Protection and Biodiversity Act 1999.](#)

5.3 Identification of Relevant Persons for Consultation

5.3.1 Regulations 25(1)(a), (b) and (c)

The relevant inquiry for determining relevant persons within the description of Regulations 25(1)(a) and (b) is whether the activities to be carried out under the EP may be relevant to one of the government departments or agencies in those regulations. The government departments and agencies relevant to the EP are listed in Appendix F, Table 1. In accordance with Regulation 25(1)(b) of the Environment Regulations, Woodside consults with the department of the relevant State Minister.

5.3.2 Identification of relevant persons Under Regulations 25(1)(a), (b) and (c)

Woodside's methodology for identifying relevant persons under Regulations 25(1)(a), (b) and (c) is as follows:

Woodside considers the defined responsibilities of each of the departments and agencies to which the activities to be carried out in the EMBA under the EP may be relevant. This list of relevant departments and agencies is formulated by reference to the responsibilities of the government departments as set out on their

websites, in NOPSEMA's GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area guideline (January 2024), which describes where the Department is a relevant agency under the Environment Regulations, as well as experience and knowledge that Woodside has gained from years of operating. This list is revised from time to time, for example, for the purposes of accommodating government restructures, renaming of departments, shifting portfolios and/or to account for new agencies that might arise.

Woodside has categorised relevant authorities as government department or agency groups, as in Table 5-1.

Table 5-1: Relevant government departments and agencies

Government departments/ agencies – marine	Agencies with legislated responsibilities for use of the marine environment.
Government departments/ agencies – environment	Agencies with legislated responsibilities for the protection of the marine environment.
Government departments/ agencies – industry	The legislated Department of the responsible Commonwealth, State or Northern Territory Minister for Industry.

Woodside considers each of the responsibilities of the departments and agencies and determines whether those responsibilities overlap with potential risks and impacts specific to the Petroleum Activity in the EMBA. The assessment is both activity and location based.

Woodside acknowledges the roles and responsibilities of government departments and agencies acting on behalf of various industry participants. For example, AMSA – Marine Safety is responsible for the safety of vessels and the seafarers who are operating in the domestic commercial shipping industry and Australian Hydrographic Office (AHO) is responsible for maritime safety and Notices to Mariners. To undertake the Petroleum Activity in a manner that prevents a substantially adverse effect on the potential displacement of marine users, Woodside therefore consults AMSA – Marine Safety and AHO on its proposed activities. Woodside considers each of the responsibilities of the departments and agencies and determines those that would either be involved in the incident response itself or in relation to the regulatory or decision-making capacity with respect to planning for the unlikely event of a worst-case hydrocarbon release incident response specific to the Petroleum Activity. Feedback received, if any, is assessed in accordance with the intended outcome of consultation.

The list of government departments and agencies assessed as relevant is set out in Appendix F, Table 1.

Feedback received, if any, is assessed in accordance with the intended outcome of consultation and summarised at Appendix F, Table 2 and Table 3 as appropriate to the relevance assessment.

Woodside does not consult with departments or agencies with interests that do not overlap with risks and impacts specific to the Petroleum Activity in the EMBA or would not be involved in incident response planning.

5.3.3 Regulation 25(1)(d)

To identify a relevant person for the purposes of Regulation 25(1)(d), the meaning of 'functions, interests or activities' needs to be understood. In Regulation 25(1)(d), the phrase 'functions, interests or activities' should be construed broadly and consistently with the objects of the Environment Regulations (Regulation 4) and the objects of the EPBC Act (section 3A).

In developing its methodology for consultation, Woodside acknowledges the guidance below from NOPSEMA's GL2086 – Consultation in the course of preparing an environment plan guideline (May 2023):

Functions	Refers to a power or duty to do something.
Interests	Conforms to the accepted concept of 'interest' in other areas of public administrative law and includes any interest possessed by an individual whether or not the interest amounts to a legal right or is a proprietary or financial interest or relates to reputation.
Activities	Broader than the definition of 'activity' in Regulation 5 of the Environment Regulations and is likely be directed to what the relevant person is already doing.

Woodside's methodology for determining 'relevant persons' for the purpose of Regulation 25(1)(d) of the Environment Regulations includes consideration of:

- whether a person or organisation has functions interests or activities that overlap with the Operational Area and EMBA
- whether a person or organisation's functions, interests or activities may be affected by Woodside's proposed planned or unplanned activities.

On the topic of consulting outside of Australia's jurisdiction, when assessing potential impacts from planned and unplanned activities for this EP, it was determined there was an extremely low probability of an unplanned hydrocarbon release entering international waters (Section 6.8), specifically Indonesian and Timor-Leste waters. Consideration has been given to the functions, interests or activities that may be affected by the activities to be carried out, should a worst-case scenario eventuate, noting that modelling completed to predict the extent of potential impact is based on there being no mitigative controls in place. The more realistic scenario is that appropriate mitigation controls set out in Woodside's oil spill preparedness and response mitigation assessment and oil pollution first strike plans would be in place or will be implemented.

The obligation to consult must be construed in a practical and pragmatic way that makes this process reasonable and workable,¹⁰ and capable of being discharged within a reasonable time.¹¹ The obligation to identify relevant persons for the purpose of consultation must be capable of practicable and reasonable discharge. The Environment Regulations require relevant persons, and their interests, to be readily ascertainable to the titleholder.¹² In the case of Indonesia, which comprises extensive coastlines and potentially remote communities, Woodside considers potential relevant persons within these communities are not readily ascertainable, for reasons including that there are limited electronic records and public records that allow for the identification of potential functions, interests or activities, e.g. fisheries, tourism licences and permits.

For example, there are no known licencing requirements either in Australia or in Indonesia or Timor Leste for traditional fishers, therefore, no publicly available information to identify and make contact with persons for consultation purposes. The logistics of access to these fishers, the nature of their activities and distance and remoteness from the Operational Area of this activity of over 1,300 km makes international consultation impractical to discharge from a reasonable time and effort perspective.

Given the extremely low probability of potential impacts, the difficulty of identifying international individuals, and the impracticality of engaging where feedback on unplanned impacts is highly unlikely to inform proposed activities, consultation with international individuals is not required for the activities described in this EP.

Having regard to nature and scale and given the extremely low probability of potential impacts (which are the highly unlikely occurrence of spill traversing international waters), the current processes in place with Department of Foreign Affairs and Trade (DFAT) and the processes and consultation triggers set out in the Woodside's oil spill preparedness and response mitigation assessment and oil pollution first strike plans provide a mechanism for consultation in international waters that will be complied with at the appropriate time, if an incident occurs. In such circumstances, consultation with the DFAT discharges the requirement for consultation with international persons.

Woodside will continue to consult the DFAT for proposed activities outside of Australia's jurisdiction, including in the event of a hydrocarbon spill that is likely to traverse international waters as described in the OPEP – Appendix H of this EP. The process for working with DFAT to manage activities and consultation in the highly unlikely event of a hydrocarbon spill that may traverse international waters is described in the OPEP – Appendix H of this EP.

¹⁰ *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 [89], [109], [136], [138], [141].

¹¹ *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 [136].

¹² *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 [136], [147], [153].

5.3.4 Identification of relevant persons Under Regulation 25(1)(d)

Relevant persons under Regulation 25(1)(d) are defined as a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP. In identifying relevant persons, Woodside considers:

- the planned activities to be carried out under the EP (described in Section 3)
- the EMBA by unplanned activities (identified in Section 4 and assessed in Section 6).

To identify relevant persons who fall within Regulation 25(1)(d) of the Environment Regulations, Woodside adopts the following methodology, then undertakes consultation with relevant persons.

As a general proposition, Woodside assesses whether a person or organisation is a relevant person having regard to:

- whether a person or organisation has functions interests or activities that overlap with the Operational Area and EMBA
- whether a person or organisation's functions, interests or activities may be affected by Woodside's proposed planned or unplanned activities to be carried out under the EP.

This assessment will include applying judgement, knowledge and considering available, relevant literature.

To assist in identifying the full range of relevant persons, Woodside considers the impacts and risks associated with its proposed activities and considers the broad categories of relevant persons who may be affected by the activities proposed to be carried out under the EP. The broad categories are identified in Table 5-2 and identification methodology applied as set out in Table 5-3.

The list of those persons or organisations assessed as relevant persons or organisations Woodside separately chose to contact is set out in Appendix F, Table 1.

Feedback received, if any, is assessed in accordance with the intended outcome of consultation and applying the categories of relevant persons methodology outlined in Table 5-3 as appropriate.

Feedback from relevant persons is summarised at Appendix F, Table 2. Feedback from persons assessed as not relevant but whom Woodside chose to contact or self-identified and Woodside assessed as not relevant are summarised at Appendix F, Table 3.

Table 5-2: Categories of relevant persons

Category	Explanation
Commercial fisheries (Commonwealth and State) and peak representative bodies	Commonwealth or State commercial fishery with a fishery management plan recognised under the <i>Fisheries Management Act 1991</i> (Cth) and <i>Fish Resources Management Act 1994</i> (WA), which may be amended from time to time. Commonwealth peak fishery representative bodies are identified by AFMA. WAFIC is the peak representative body for state fishers in WA.
Recreational marine users and peak representative bodies	Charter boat, tourism and dive operators identified by DPIRD specific to the location of the proposed activity. Representative bodies are the recognised peak organisation(s) for recreational marine users.
Titleholders and operators	Registered holder of an offshore petroleum title or GHG title under the OPGGS Act and associated regulations.
Peak industry representative bodies	Recognised peak organisation(s) for the oil and gas sector.
Traditional Custodians (individuals and/or groups/entity)	Traditional Custodians are First Nations Australians with cultural rights and interests, or cultural functions or who perform cultural activities over particular lands and waters. Where a First Nations person, group or entity self-identifies and asserts cultural rights, functions, interests or activities, they will be included in the definition of Traditional Custodian for the purpose of this EP.
Nominated Representative Corporations	Nominated representative corporations are Traditional Custodians' nominated representative institutions such as Prescribed Body Corporates (PBC). PBCs are established under the <i>Native Title Act</i> (Cth) by Traditional Custodians to represent their entire Traditional Custodian group (defined broadly by reference to descents from an ancestor set who were known to be the Traditional Custodians at the time of European colonisation) and their interests including, among other things, management and protection of cultural values.
Native Title Representative Bodies	A Representative Aboriginal/Torres Strait Islander Body is a regional organisation appointed under the <i>Native Title Act</i> with prescribed functions, set out in Part 11 of the <i>Native Title Act</i> , which relate to: facilitation and assistance; certification; dispute resolution; notifications; agreement making. They are also known, and referred to here, as Native Title Representative Bodies.
Historical heritage groups or organisations	Legislated or government enlisted groups or organisations responsible for the management of marine heritage.
Local government and elected Parliamentary representatives and recognised local community reference/liaison groups or organisations	Local government body formed under the <i>Local Government Act 1995</i> (WA) and elected Parliamentary representatives who are responsible for representing the local community. Recognised local community reference or liaison group or organisation in relation to oil and gas matters.
Other non-government groups, organisations, or individuals	Non-government organisation with public website material targeting the proposed activity. Individual who demonstrates the proposed activity could potentially impact their interests, functions or activities.
Research institutes and local conservation groups or organisations	Research institutes are government or private institutions that conduct marine or terrestrial research. Local conservation groups are local non-government organisation that regularly conduct conservation activities focused on the local environment or wildlife.

Table 5-3: Methodology for identifying relevant persons within the EMBA undertaken under Regulation 25(1)(d) – by category

Category	Relevant person identification methodology
Commercial fisheries (Commonwealth and State) and peak representative bodies	Woodside assesses relevance for commercial fisheries (Commonwealth and State) and their representative bodies using the following steps in its methodology: - Define the parameters, having regard to timing, location and duration of the proposed Petroleum Activity. - Confirm whether the EMBA overlaps with the fisheries management area (i.e. the spatial area the fishery is legally permitted to fish in) (see Section 4.10.1). - Follow WAFIC's consultation guidance¹³, that titleholders develop separate consultation strategies for significant unplanned events (for example, an oil spill) where titleholders can demonstrate the likelihood of such events is extremely low. WAFIC's guidance is that consultation about unplanned events resulting in an emergency scenario should only be undertaken if an incident occurs (see Appendix F). - For Commonwealth and State commercial fisheries, assess the potential spatial and temporal extent for interaction with the fishery by reviewing AFMA, ABARES and DPIRD FishCube data within the Operational Area and EMBA (see Section 4.10.1). Assessment of relevance: - State commercial fisheries that have been assessed as having a potential for interaction within the Operational Area or EMBA (see Section 4.10.1) are assessed as relevant to the proposed activity. However, to avoid over consulting and as requested in WAFIC's guidance, Woodside only consults individual licence holders based on WAFIC's advice. Woodside also utilises WAFIC's consultation service whereby WAFIC: - directly consults fishery licence holders that are assessed as having a potential for interaction in the Operational Area - consults fisheries that are assessed as having a potential for interaction in the EMBA only in the event of an unplanned emergency scenario. - Commonwealth commercial fisheries that have been assessed as having a potential for interaction within the Operational Area or EMBA (see Section 4.10.1) are assessed as relevant to the proposed activity. - If Woodside has identified that a Commonwealth or State fishery is a relevant person, then Woodside also consults the fisheries relevant representative body. For example, WAFIC represents the interests of State fisheries in WA. If a State fishery is identified as relevant, Woodside would also identify WAFIC as relevant. Recognised Commonwealth fishery representative bodies are identified by AFMA via its website. WAFIC is the only recognised State fishery representative body.
Recreational marine users and peak representative bodies	Woodside assesses relevance for recreational marine users and peak representative bodies using the following steps in its methodology: - Use Woodside knowledge and operating experience, apply knowledge of recreational marine users in the area. This assessment is both activity- and location-based. - Define the parameters, having regard to timing, location and duration of the proposed Petroleum Activity. - Assess the potential spatial and temporal extent for interacting with recreational marine users by reviewing DPIRD FishCube data to assess whether there has been activity within the EMBA in the past five years. Assessment of relevance: - Recreational marine users that have been active in the past five years within the EMBA are assessed as relevant to the proposed activity. DPIRD provides Woodside with the contact details of charter, boat tourism and dive operators specific to the region of the EMBA to consult with the relevant persons. - If Woodside has identified recreational marine users as relevant, Woodside also consults identified peak recreational marine user representative bodies. For example, Recfishwest represents the interests of recreational fishers. These representative bodies are identified via Woodside's existing consultation list, which is updated as appropriate via advice from known groups and DPIRD.

¹³ [Consultation Approach for Unplanned Events - WAFIC](#).

Category	Relevant person identification methodology
Titleholders and operators	Woodside assesses relevance for other titleholders and operators using the following steps in its methodology: • Use WA Petroleum Titles (DEMIRS-011) to determine overlap with other titleholders' or operators' permit areas within the EMBA. • From Woodside knowledge and operating experience, apply knowledge of other operators in the area. • Produce a map showing the outcome of this assessment. Assessment of relevance: • Titleholders and operators whose permit areas are identified as having an overlap with the EMBA are assessed as relevant.
Peak industry representative bodies	Woodside assesses relevance for peak industry representative bodies using the following steps in its methodology: • Review peak industry representative bodies' responsibilities that Woodside actively participates in, considering overlap between industry focus area and Woodside's proposed activities within the EMBA. • Review Woodside's existing stakeholder consultation list. • Search websites to identify whether any additional peak industry representative bodies have been created whose responsibilities may overlap with Woodside's proposed activities within the EMBA. Assessment of relevance: • Peak industry representative bodies whose responsibilities are identified as having an overlap with Woodside's proposed planned activities in the Operational Area are assessed as relevant.
Traditional Custodians (individuals and/or groups/entity and Nominated Representative Corporations	Woodside assesses relevance for Traditional Custodian groups or individuals, using the following steps in its methodology: • Use existing systems of recognition to identify First Nations groups who overlap the EMBA (for example, recognition provided under Native Title or Cultural Heritage legislation, or marine park management plans, or identification by other First Nations groups or entities). • Notify and invite consultation with First Nations people through their nominated representative corporation (for example, PBCs) or, in the case of native title and where appropriate, the Native Title Representative Body. • Request the nominated representative body to forward the notifications and invitations to consult to their members (members are individual communal rights holders). • Request advice as to other First Nations groups or individuals that should be consulted. • Advertise widely to invite self-identification and consultation by First Nations groups and individuals. Further detail to Woodside's methodology is as follows: • Use the databases of the National Native Title Tribunal to: – understand whether there are any Native Title claims (historical or current) or determinations overlapping or coastally adjacent to the EMBA – understand whether there are any relevant ILUAs registered with the National Native Title Tribunal that overlap or are adjacent to the EMBA that may identify Traditional Custodians or representative bodies to contact regarding potential cultural values. • Where there is a positive determination of Native Title, contact the PBC or, where their representative is a Native Title Representative Body, contact the Native Title Representative Body. • Where appropriate, contact the relevant Native Title Representative Body to request a list of First Nations groups asserting Traditional Custodianship over an area of coastline adjacent to the EMBA. • Review Commonwealth and State Marine Park management plans that overlap the EMBA that may identify Traditional Custodians or representative bodies to contact regarding potential cultural values.

Category	Relevant person identification methodology
	- Identify First Nations groups or individuals identified by a Traditional Custodian, nominated representative corporation or Native Title Representative Body. - Request the PBC to distribute Woodside consultation materials through its membership. Woodside is unable to contact this membership through any other means. - Use one of Woodside's public notification and information sharing processes by which individual Traditional Custodians can become aware of the proposed activity, its risks and impacts, and self-identify. - Provide individuals that consider themselves to be relevant interested persons an opportunity to self-identify for each EP. Woodside does not presume self-identification for an activity covered by another EP automatically means an individual is a relevant person. This decision is for the individual to make. The public notification, information sharing and consultation processes Woodside puts in place enable Traditional Custodians to become aware of proposed activities, assess risks and impacts to their values, and enable individuals to self-identify. Assessment of relevance: - Traditional Custodian groups, entities or individuals and Nominated Representative Corporations who are identified through the above methodology and overlap or are coastally adjacent to the EMBA, are assessed as relevant.
Native Title Representative Bodies	Woodside assesses relevance for Native Title Representative Bodies using the following steps in its methodology: - Review National Native Title Tribunal Aboriginal/Torres Strait Islander Body areas that overlap or are coastally adjacent to the EMBA. Assessment of relevance: - Where the area for which a Native Title Representative Body is recognised under the <i>Native Title Act</i>, overlaps with the EMBA, or is coastally adjacent to the EMBA, Woodside will assess the Native Title Representative Body as relevant.
Historical heritage groups or organisations	Woodside assesses relevance for groups or organisations whose responsibilities are focused on historical heritage using the following next steps in its methodology: - Use the Australasian UCH Database to assess any known records of Maritime Cultural Heritage sites (shipwrecks, aircraft and relics) within the EMBA (see Section 4.9). Assessment of relevance: - Where there is a known underwater heritage site (shipwrecks, aircraft and relics) within the EMBA, the relevant group or organisation that manages the site will be assessed as relevant.
Local government and elected Parliamentary representatives and recognised local community reference/ liaison groups or organisations	Woodside assesses relevance for local government and recognised local community reference/ liaison groups or organisations using the following steps in its methodology: - Review Woodside maps (developed based on data from the WA Local Government, Sport and Cultural Industries 'My Council' database and WA Local Government Association Local Government Directory maps) to assess overlap between the local government's defined area of responsibility and the EMBA. - Host regular community reference/ liaison group meetings. Members represent a cross-section of the community and local towns' interests. Representatives are from community and industry and generally include Woodside, state government (for instance, relevant regional development commissions), local government, Indigenous groups, industry representative bodies, community and industry organisations. Woodside considers these reference/ liaison groups to be the appropriate recognised representatives of the local community for the oil and gas sector. - Review the community reference/ liaison group's terms of reference to determine its area of responsibility and overlap with the EMBA. For example, the Exmouth Community Reference Group's area of responsibility in relation to Woodside's operational, development and planning activities is defined in the terms of reference as the Exmouth Sub-basin. Comparatively, the Karratha Community Liaison Group's area of responsibility is the Pilbara region (i.e. onshore). Assessment of relevance:

Category	Relevant person identification methodology
	- The local government whose defined area of responsibility overlaps the EMBA is assessed as relevant. - The community reference/liaison group whose defined area of responsibility overlaps the EMBA is assessed as relevant and consulted collectively via the relevant reference/liaison group.
Other non-government groups, organisations or individuals	Woodside assesses relevance for other non-government groups or organisations or individuals using the following steps in its methodology: - Review Woodside's existing consultation list. - Search websites of registered non-government groups or organisations (i.e. registered with an Australian business number or publicly available contact information) that may have public website material specific to the proposed activity when developing the EP. - Review organisations' publicly available mission statement (or purpose) where it clearly describes their collective functions, interests or activities. - Review current website material to identify targeted information that demonstrates functions, interests and activities relevant to the potential risks and impacts associated with planned activities. - Review an individual's feedback to consider whether their functions, interests and activities could be impacted. Assessment of relevance: - Registered non-government groups or organisations with current targeted public website material specific to the proposed activity at the time of developing the EP and demonstrated functions, interests and activities relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2) will be assessed as relevant. - Individual demonstrates their functions, interests and activities could be impacted are assessed as relevant.
Research institutes and local conservation groups or organisations	Woodside assesses relevance for research institutes and local conservation groups or organisations using the following steps in its methodology: - Review Woodside's existing stakeholder consultation list. - Search websites of research institutes that may operate within the EMBA. This assessment is both activity- and location-based. - Search websites of local conservation groups or organisations that regularly conduct conservation activities within the EMBA. Assessment of relevance: - Where there is known research being undertaken by a research institute within the EMBA, the research institute that is conducting the research will be assessed as relevant. - Local environmental conservation groups who regularly conduct conservation activities within the EMBA assessed as relevant. This assessment is both activity and location based.

5.3.5 Regulation 25(1)(e)

In addition to assessing relevance under Regulation 25(1)(d) of the Environment Regulations, Woodside has discretion to categorise any other person or organisation as a relevant person under Regulation 25(1)(e) of the Environment Regulations.

5.3.6 Identification of relevant persons under Regulation 25(1)(e)

Woodside adopts a case-by-case approach for each EP to assess relevance under Regulation 25(1)(e) of the Environment Regulations.

5.3.7 Persons or organisations Woodside chooses to contact

In addition to undertaking consultation with relevant persons under Regulation 25(1) of the Environment Regulations, there are persons or organisations that Woodside chooses to contact, from time to time, in relation to a proposed activity. For example, these are persons or organisations:

- that are 'not relevant' pursuant to Regulation 25(1) of the Environment Regulations but that Woodside has chosen to seek additional guidance from, for example, to inform the correct contact person that Woodside should consult, or engage with
- that are 'not relevant' pursuant to Regulation 25(1) of the Environment Regulations but have been contacted as a result of consultation requirements changing or updated guidance from the regulator
- where it is unclear what their functions, interests or activities are, or whether their functions, interests or activities may be affected. In this circumstance, engagement is used to inform relevance under Woodside's methodology. Woodside follows the same methodology for assessing a person or organisations relevance as it does during its initial assessment (as described in Figure 5-1 and Section 5.3). The result of Woodside's assessment of relevance during the development of the EP is outlined at Appendix F, Table 1.

5.4 Assessment of relevant persons for the Proposed Activity

The result of Woodside's assessment of relevant persons in accordance with Regulation 25(1) is outlined at Appendix F, Table 1 and Appendix F, Table 2.

Persons or organisations that Woodside assessed as not relevant but chose to contact at its discretion in accordance with Section 5.3.4 or self-identified and Woodside assessed as not relevant are summarised at Appendix F, Table 1 and Appendix F, Table 3.

5.5 Consultation material and timing

Regulation 25(2) of the Environment Regulations provides that a titleholder must give each relevant person sufficient information to allow the relevant person to make an informed assessment of the possible consequences of the activity on the functions, interests or activities of the relevant person. Regulation 25(3) of the Environment Regulations provides that the titleholder must allow a relevant person a reasonable period for the consultation.

As set out in Section 5.2, Woodside notifies relevant persons, of the proposed activities, respecting that consultation is voluntary and collaborates on a consultation approach where further engagement is sought by the relevant person. The consultation process aims to be appropriate for the category of relevant persons and not all persons or organisations will require the same level of engagement. Woodside recognises that the level of engagement is dependent on the nature and scale of the Operational Area. Woodside acknowledges published guidance for good practice consultation relevant to different sectors and disciplines. Woodside's methodology for providing relevant persons with sufficient information as well as a reasonable period of time to provide feedback is set out in this section.

5.5.1 Sufficient information

Woodside produces a Consultation Information Sheet for each EP. This is provided to relevant persons and organisations and is also available on Woodside's website for interested parties to access and to provide feedback on. The Consultation Information Sheet typically includes a description of the proposed petroleum activity, the Operational Area or Operational Area depending on the EP, where the activity will take place, the timing and duration of the activity, a location map of the Operational Area or Operational Area and EMBA, a description of the EMBA, relevant exclusion zones and a summary of relevant risks and mitigation and management control measures relevant to the proposed petroleum activity. It also sets out contact details to provide feedback to Woodside.

The level of information necessary to assist a person or organisation to understand the impacts of the proposed activity on their functions, interests or activities may vary and may depend on the degree to which a relevant person is affected. For example, Woodside considers that relevant persons who may be impacted by planned activities in the Operational Area, as a result of temporary displacement due to exclusion zones, may require more targeted information relevant to their functions, interests or activities. Sufficient information may have been provided to a relevant person even where all documents requested by a relevant person

have not been provided. Woodside acknowledges NOPSEMA's brochure entitled 'Consultation on offshore petroleum environment plans information for the community', which advises persons being consulted that they may inform titleholders that they only want to be consulted in the very unlikely event of an oil spill.

Woodside places advertisements in selected local, state and national newspapers. This typically includes:

- the name of the EP Woodside is seeking feedback on
- an overview of the activity
- the consultation feedback date
- the ways in which a person or organisation can provide feedback.

Advertising in the local paper in the area of the activity is also consistent with the public notification process under section 66 of the *Native Title Act* for Native Title applications. Woodside typically aligns advertisement feedback timeframes with the timing described below. Feedback received is assessed in accordance with Section 5.3 to determine relevance and evidenced in Appendix F, Table 1 as appropriate.

Woodside utilises a range of tools to provide sufficient information to relevant persons, which may include one or more of the following:

- Consultation Information Sheet available on Woodside's website and shared directly with relevant persons
- Summary Consultation Information Sheet, presentations or summaries specific to a particular relevant person group
- subscription available on Woodside's website to receive notification of new Consultation Information Sheets for Woodside EPs
- emails
- letters
- phone calls
- face-to-face meetings (virtual or in person) with presentation slides or handouts as appropriate
- Let's Talk newsletter – digital and hard copy
- maps outlining a persons or organisations defined area of responsibility in relation to the proposed activity, for example a fisheries management area or defence training area
- community meetings, as appropriate
- attendance at community events or planned regional roadshows
- broader awareness campaigns on how to be involved in the EP consultation process.

Woodside recognises that information may be provided to relevant persons in an iterative manner during the consultation process. Woodside considers that genuine two-way engagement may be demonstrated via information on incorporation of controls, where applicable, being provided to the relevant person so that the relevant persons understand how their input has been considered in the development of the EP.

Woodside communicates with relevant persons in different ways. Woodside recognises that as part of genuine two-way dialogue, these forms of communication may evolve, including, for example, due to changes to organisation representation, as relationships are further established, or a preference for an alternative form of communication is expressed by a person or organisation. There might be limitations in how Woodside can consult with relevant persons.

Typical forms of communication for categories of relevant persons are in Table 5-4.

Table 5-4: Typical forms of communication for categories of relevant persons

Category of relevant person	Typically accepted form of communication
Government departments/ agencies – marine	Woodside applies NOPSEMA's guideline for engagement with Commonwealth government departments or agencies GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2023 by using email for its consultation unless another form of communication is requested. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Government departments/ agencies – environment	
Government departments/ agencies – industry	
Commercial fisheries and peak representative bodies	Commonwealth commercial fisheries: Email is used as the primary form of communication with Commonwealth commercial fisheries in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request. State commercial fisheries and recreational marine users: The WA DPIRD has responsibility for managing the <i>Fish Resources Management Act 1994</i> and <i>Aquatic Resources Management Act 2016</i> , which limits the provision of contact details from the register to the name and business address of licence holders. Alternative forms of communication are at the licence holder's discretion. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request. Peak representative bodies: Email is used as the primary form of communication with commercial fishery and recreational marine user peak representative bodies in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Recreational marine users and peak representative bodies	
Titleholders and operators	Email is used as the primary form of communication between titleholders and operators in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Peak industry representative bodies	Email is used as the primary form of communication with peak representative bodies in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Traditional Custodians and nominated representative corporations	There are many forms of communication that Woodside uses on a case-by-case basis and as appropriate to or requested by the specific group, such as email, phone calls, meetings and community forums. Other forms of communication are used on request.
Native Title Representative Bodies	There are many forms of communication that Woodside uses on a case-by-case basis and as appropriate to or requested by the specific group, such as email, phone calls, meetings and community forums. Other forms of communication are used on request.
Historical heritage groups or organisations	NOPSEMA's guideline (GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2023) for engagement with government departments or agencies is used as a reference for Woodside's approach for communicating with historical heritage groups or organisations. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Local government and recognised local community reference/liaison groups or organisations	Local government: NOPSEMA's guideline (GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2023) for engagement with local government is used as a reference for Woodside's approach for communicating with historical heritage groups or organisations. Community reference/liaison groups and chambers of commerce: Email and presentations are used as the primary form of communication with local community reference/liaison groups or organisations in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Other non-government groups or organisations	Email is used as the primary form of communication with other non-government groups or organisations. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.

Category of relevant person	Typically accepted form of communication
Research Institutes and Local conservation groups or organisations	Email is used as the primary form of communication with research institutes and local conservation groups or organisations. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.

Information which is provided to relevant persons for the purposes of consultation on this EP is summarised at Appendix F, Table 2.

Appendix F, Table 3 sets out the information which is provided to persons or organisations that are not relevant for the purposes of Regulation 25 but which Woodside has chosen to contact.

When engaging in consultation, Woodside notifies relevant persons that, in accordance with Regulation 25(4), the relevant person may request that the titleholder notifies NOPSEMA that particular information the person or organisation provides in the consultation not be published and that information subject to that request will not be published under the Environment Regulations.

5.5.2 Reasonable period for consultation

Woodside seeks to consult in order to support preparation of its EP. Woodside recognises that what constitutes a reasonable period for consultation should be considered on a case-by-case basis, with reference to the nature, scale and complexity of the activity.

Woodside recognises that information may need to be provided to relevant persons in an iterative manner during the consultation process. Woodside considers that genuine two-way engagement may be demonstrated via information on incorporation of controls, where applicable, being provided to the relevant person so that the relevant person understands how their input has been considered in the development of the EP.

Woodside's methodology allows relevant persons a reasonable period for consultation (Regulation 25(3)). A reasonable period for all relevant persons, including Traditional Custodians, to participate in consultation for this EP has been provided.

The consultation period under this EP has satisfied benchmark periods under other relevant legislative processes:

- Regulation 30 of the Environment Regulations sets out a public consultation period of 30 days.
- The Department of Mines and Petroleum Guidelines for Consultation with Indigenous People by Mineral Explorers directs a period of 21 to 30 days of consultation with Traditional Owners.
- While repealed, guidance taken from the *Aboriginal Cultural Heritage Act 2021* – Consultation Guidelines (Government of Western Australia, 2023) suggests that up to 12 weeks may be a reasonable period to allow identification, contact and response from First Nations peoples (subject to any alternative timeframe being agreed through co-design of consultation).

This period of consultation demonstrates that Woodside has provided a "reasonable period" for relevant persons to consult in accordance with Regulation 25(3). Commentary in the Tipakalippa Appeal judgment limits consultation to a process that must be capable of being discharged within a reasonable time:

*it must be taken to be the regulatory intention that the consultation requirement cannot be one that is incapable of being complied with within a reasonable time...*¹⁴

Woodside seeks feedback to support preparation of its EP. What constitutes a reasonable period for consultation is considered on a case-by-case basis, with reference to the person being consulted and the nature, scale and complexity of the activity.

Woodside's typical approach to providing a reasonable period for consultation is as follows:

- Advertise in selected local, state and national newspapers to give persons or organisations the opportunity to understand the activity and identify whether their functions, interests or activities may be affected.

¹⁴ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [136].

- Provide consultation materials directly to identified relevant persons as well as persons who are not relevant but Woodside chose to contact, and providing a target date for feedback. Woodside acknowledges that feedback may be received from relevant persons following the target date.
- Acknowledging that the way in which Woodside provides consultation information may vary depending on the relevant person or organisation, and may depend on the degree to which a relevant person or organisation is affected, apply different consultation processes if required for relevant persons and organisations depending on the information requirements.
- Follow up with relevant persons prior to EP submission. Where possible, Woodside will endeavour to use an alternative method of communication to contact the relevant person.
- Engage in two-way dialogue with relevant persons or organisations where feedback is received.

Appendix F, Table 2 and Table 3 sets out a history of ongoing consultation and demonstrates that a reasonable period of consultation has been provided for each relevant person.

Woodside considers that consultation for this EP has closed.

As detailed in Section 5.6, if comments and feedback are received after the EP has been submitted, Woodside will consider those comments and update controls as appropriate and at all stages of the life of the EP as per Woodside's ongoing consultation approach as described in Section 5.7.

5.5.3 Discharge of Regulation 25

The Full Federal Court made clear in the Tipakalippa Appeal that consultation should be approached in a “reasonable”, “pragmatic” and “not so literal” way, so that consultation obligations were capable of being met by titleholders (Section 5.5.5).¹⁵ Consultation is a “real world activity” and must be capable of reasonable discharge.¹⁶ The Full Federal Court referred to native title cases as an illustration that reasonable limits should be applied to consultation efforts to ensure the process is workable.¹⁷

When the titleholder demonstrates that it has provided sufficient information and a reasonable period for consultation, the Regulation 25 consultation requirements are met.¹⁸ Meeting these obligations requires evaluative judgment to determine reasonable satisfaction of the consultation obligation, and as such, the regulator uses its discretion to determine if these criteria are met. The nature of the person being consulted, and their function, interest and activity that may be affected, will inform the manner of consultation and the reasonable period to be afforded.¹⁹

While a titleholder is required to provide an opportunity to consult, the titleholder is not required to obtain consent to engage in the activity from a person being consulted, or confirmation from a person being consulted, that consultation is complete. The Federal Court has commented that a “reasonable opportunity” for consultation must be afforded to relevant persons.²⁰ A reasonable opportunity may not be every opportunity requested and is limited to reasonable opportunities to consult.

Woodside has completed steps required to discharge its consultation obligations. Woodside has provided sufficient information and a reasonable period of time to enable relevant persons to make an informed assessment of the possible consequences of the activity on their functions, interests or activities, and sufficient time to provide relevant feedback for Woodside to assess relevant persons' objections or claims. Woodside has also provided a reasonable opportunity for there to be genuine two-way dialogue on a person's claims or objections.

Woodside has discharged its duty under Regulation 25 of the Environment Regulations. Woodside considers that consultation under Regulation 25 of the Environment Regulations is complete.

¹⁵ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 [89], [98], [103]-[104] and [109].

¹⁶ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at [89].

¹⁷ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at [96] and [103].

¹⁸ Explanatory Statement, Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023, page 29.

¹⁹ Explanatory Statement, Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023, page 30 and Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at [153].

¹⁹ Explanatory Statement, Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023, page 30 and Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at [153].

²⁰ Cooper v National Offshore Petroleum Safety and Environmental Management Authority (No 2) [2023] FCA 1158 at paragraph [11]; Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at [153].

Appendix F, Table 2 and Table 3 of this EP sets out the history of consultation under Regulation 25. To the extent a relevant person says they have further information to share or claims that consultation under Regulation 25 has not been completed, Appendix F, Table 2 and Table 3 provides reasons why Woodside considers consultation under Regulation 25 has been met in relation to that relevant person.

5.5.4 Context of consultation approach with Traditional Custodians

To comply with Regulation 25 of the Environment Regulations, Woodside identifies and consults Traditional Custodians whose functions, interests or activities may be affected by the activities under an EP.

5.5.5 Approach to methodology – Woodside’s interpretation of Tipakalippa

Woodside has implemented a consultation methodology consistent with Regulation 25 and guidance provided in the Tipakalippa Appeal (Section 5.2). Woodside’s consultation methodology allows for a sufficiently broad capture of Traditional Custodian relevant persons, provides for informed consultation, follows cultural protocols and allows a reasonable opportunity for consultation with Traditional Custodians whose functions, interests or activities may be affected by the activity described in this EP (Sections 5.5.6.1 to 5.5.6.4).

Woodside notes the Full Federal Court discussed several *Native Title Act* (Cth) cases in response to a submission made in that case that a requirement under Regulation 25 to consult “each and every” relevant person would be “unworkable”. The reference to native title cases dealt with how decision-making processes under the *Native Title Act* requiring “all” members of a group to be contacted for communal approval are interpreted by courts in a “reasonable”, “pragmatic” and “not so literal” way,²¹ and how obligations to consult “each and every” person under Regulation 25 should be interpreted in a similarly pragmatic way so that consultation is workable. The reference to *Native Title Act* authorities was made by analogy:

It can be seen that the terms of [the native title legislation] are somewhat absolute – “all”. However, [the native title legislation] has consistently been construed in a way that is not so literal...The cases concerning [the native title legislation]...have reiterated...that [the native title legislation] does not require that “all” of the members of the relevant claim group be involved in the decision. The key question will be whether a reasonable opportunity to participate in the decision-making process has been afforded by the notice for a relevant meeting.²²

We consider the authorities in relation to processes under the Native Title Act to be illustrative of how a seemingly rigid statutory obligation to consult persons holding a communal interest may operate in a workable manner²³ (emphasis added).

...there is no definition of what constitutes “consultation for the purpose of ref 11A [now Regulation 25]... A titleholder will need to “demonstrate” to NOPSEMA that what it did constituted consultation appropriate and adapted to the nature of the interests of the relevant persons²⁴ (emphasis added).

The Judgement in the Tipakalippa Appeal makes it clear that a titleholder will have some decisional choice in identifying which natural person(s) are to be approached, how the information will be given to allow the ‘relevant person’ to assess the possible consequence of the proposed activities on their functions, interests or activities, and how the requisite consultation is undertaken.²⁵ Consultation is not fixed to a rigid process, and will be adapted so that it is informed by the relevant person or group. Woodside has met its Regulation 25 requirements through its consultation methodology (Section 5.2).

Consistent with the Tipakalippa Appeal, Woodside considers *Native Title Act*-style “full group” meetings are not required for there to be compliance with Regulation 25. Nominated representative corporations (such as PBCs established under the *Native Title Act*) have a designated role of representing the views of their member Traditional Custodians. They have established methods for engaging with their own members. Woodside will not undermine the purpose and authority of nominated representative corporations by requiring full group meetings where the nominated representative corporations have not requested

²¹ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [95], [98], [103]-[104] and [109].

²² Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [98].

²³ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [96].

²⁴ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [104].

²⁵ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [47] and [48].

engagement of members via full group meetings. It is not appropriate for titleholders to direct or challenge the nominated representative corporations on how to engage with their members.

Woodside's approach described below demonstrates that sufficient information and a reasonable opportunity is provided to individual Traditional Custodians to provide feedback on Woodside activities beyond the opportunity provided to nominated representative corporations.

5.5.6 Consultation method

Woodside's First Nations team has experience in engaging and working with First Nations organisations and individuals, including within the Commonwealth native title and cultural heritage systems and state and territory cultural heritage and land rights systems, for several decades. The team understands the complexities of making information accessible to groups and individuals and engaging in accordance with First Nations groups' established channels of communication and methods of consultation. The First Nations team exercises its professional judgement and is respectful of long-standing relationships (where in place) when considering consultation with First Nations groups. The First Nations team's approach is also informed by the established systems of recognition for First Nations groups and their nominated representative corporations within particular jurisdictions.

For example, the methodology for engaging with First Nations groups in the Northern Territory (not relevant for this EP) tends to centre around engagement through Aboriginal land councils (under the *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth)) as well as community meetings that target clan groups where they do not have PBCs or other nominated representative corporations to represent them. By contrast, recognition for First Nations groups and their nominated representative corporations in WA falls under the *Native Title Act* (Cth) because the vast majority of the WA coastline is settled under the native title regime. This means that the methodology and process for consultation in WA places greater emphasis on, but is not limited to Native Title Representative Bodies and PBCs. Native title determinations provide certainty about the appropriate Traditional Custodian groups that have the cultural authority to speak for Country adjacent to the EMBA, and help Woodside to identify Traditional Custodian persons and groups asserting Traditional Custodianship. The Judgement in the Tipakalippa Appeal endorses methods of consultation with groups of relevant persons that are appropriate and adapted to the characteristics of groups.²⁶ Woodside's consultation methodology is adapted and appropriate to the recognised systems of communal interests in WA.

In WA (relevant for this EP), Woodside has sought to follow the established, effective and respectful means of communication used by Native Title Representative Bodies and nominated representative corporations (including PBCs) with their respective First Nations communities. Woodside follows these processes for the appropriate broad capture of individuals' awareness of our activities, to self-identify (Section 5.5.6.2), and to provide feedback to inform the management of environmental impacts and risks.

Using these processes, Woodside communicates information about EPs by:

- Advertising in relevant Indigenous and non-Indigenous newspapers. This encourages self-identification, by advertising proposed activities widely through newspapers that have national and intra-state circulation, i.e. Koori Mail, National Indigenous Times, The West Australian.
- Creating carefully considered Summary Information Sheets with content developed by Woodside's First Nations Team to remove jargon and present information in a simplified format.
- Directing contact through nominated representative corporations.
- Using social media (i.e. Facebook/Instagram), texts, phone calls and emails. These mediums are the preferred communication methods used by Traditional Custodians throughout WA and on that basis used by Native Title Representative Bodies and other government agencies and industry, to engage with Traditional Custodians or call meetings. First Nations woman, Professor Bronwyn Castle through 10 years of research found "*Social media is an intrinsic part of daily life. The use of Facebook is around 20 per cent higher [among First Nations people] than the national average across all geographical locations*" (Social media mob: being Indigenous online, Professor Bronwyn Carlson (2018)).
- Carrying out ongoing consultation post Regulation 25 of the Environment Regulations consultation, where Woodside has a Program of Ongoing Engagement with Traditional Custodians. This program

²⁶ Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [95].[104].[153].

sets out Woodside's commitment to ongoing engagement and support to care for and manage Country, including Sea Country. The program was developed in response to Traditional Custodian feedback.

- Basing members of its First Nations team in Karratha and Roebourne and who serve as on-Country points of contact for First Nations organisations and individuals. These team members have broad local knowledge and established, on-the-ground relationships within communities. This helps contribute to positive outcomes including distributing information and providing notice to the community to support Traditional Custodian attendance and involvement at Woodside's information sessions and Community roadshows.
- Ensuring that from the commencement of engagement with Traditional Custodians, Woodside seeks direction on how they prefer to be consulted and has consulted accordingly. Consultation processes that are informed by Traditional Custodians and co-designed on a case-by-case basis and includes their direction as to cultural protocols, structure of consultation and who to appropriately consult with (such as Elders).
- Holding meetings on Country at a place and time agreed with Traditional Custodians and offering and providing financial assistance for meeting expenses (as appropriate).
- Providing information specifically designed to be easily understood, to reach all relevant people, and give a reasonable period of time for those people to make an informed assessment of the possible consequences of the proposed activity on them.

The First Nations team approach to consultation is also consistent with the Federal Court's decision in the Munkara Case. The Munkara Case notes that the word 'culture' (and hence the word 'cultural') has a communal aspect to it. To establish cultural features, it is necessary that the beliefs and values are held by the relevant people as a people. For values, features or beliefs that are expressed by an individual to be "cultural" they cannot simply be an individual's belief – the belief must have a communal aspect too, and demonstrate that the "individual beliefs are broadly representative of the beliefs of other members of the group"²⁷. The phrase "cultural features", when applied to "people" as constituent parts of an ecosystem, is not directed to idiosyncratic views or beliefs of an individual.²⁷ When the First Nations team is told that a particular value is cultural by an individual Traditional Owner, that information is taken back to the relevant cultural authority to test its broad acceptance. In the case of gender sensitive information, that information would be restricted to the specific gender within the community.

5.5.6.1 Identification of relevant persons

To undertake consultation, Woodside has developed a methodology for identifying relevant persons, in accordance with Regulation 25(1) of the Environment Regulations (Section 5.2 and Section 5.3).

Specific to Woodside's approach for identifying relevant Traditional Custodians, Woodside's First Nations Communities Policy and consultation approach is guided by Traditional Custodians by directing consultations through their nominated representative corporation. This has been implemented by Woodside through consultation with a nominated representative corporation where that corporation has advised Woodside that it acts as the representative body for a Traditional Custodian group and has requested that Woodside engage with it as the representative body for that Traditional Custodian group.

Woodside asks nominated representative corporations (such as PBCs) and Native Title Representative Bodies to identify individuals that should be consulted, and enables individuals to self-identify in response to national and local advertising, social media and community engagement opportunities (Section 5.5.6). Where there is a nominated representative corporation for an area, unless directed by the nominated representative corporation, Woodside does not directly approach individuals for consultation, because this has the potential to undermine the role of the nominated representative corporations. Approaching individuals directly is a practice that is no longer considered acceptable because of divisions it has been shown to cause in communities. In addition to asking for the identification of individuals, Woodside also asks nominated representative corporations to distribute consultation information to whomever the nominated representative corporations deem appropriate including members of the nominated representative corporations who are communal rights holders.

²⁷ *Munkara v Santos NA Barossa Pty Ltd (No 3) [2024] FCA 9 at [205]*.

Having said this, as set out in further detail in Section 5.5.6.4, individuals are also given the opportunity to self-identify, consult and provide their own feedback on the proposed activity. When approached in this way, Woodside will engage individuals as relevant persons and will also (subject to any confidentiality or cultural restrictions) advise the nominated representative body of the consultation where it relates to cultural values. These methods of consultation are consistent with requirements for notification under the *Native Title Act* (Cth), such as under the future Act provisions (section 29), which requires notification of the Native Title Representative Body, the PBC (or nominated representative) and notification through newspapers. The notification process has been selected as a respectful, practical and pragmatic analogue for consultation with First Nations peoples, rather than requiring members to be notified via a formal authorisation process which seeks, from members, authorisation of agreements and Native Title/compensation claims under the *Native Title Act* (Cth)²⁸.

In this consultation, Woodside requested nominated representative corporations to identify any potential individual relevant persons for consultation. Woodside requests nominated representative corporations to distribute consultation materials to their members. However, Woodside recognises that the process is voluntary and that it cannot compel nominated representative corporations (such as PBCs) to do so. Woodside also recognises that it would not be appropriate to seek to audit the nominated representative corporations for compliance with any member consultation request.

5.5.6.2 Opportunity to self-identify and identifying other individuals

Woodside requests nominated representative corporations and Native Title Representative Bodies to identify other individuals to consult with or individuals who may seek to self-identify for a proposed activity. Woodside also advertises broadly through Indigenous, national and local advertising, social media and community engagement opportunities to provide individuals with an opportunity to consult. Woodside does not directly approach individuals for consultation, as this undermines the role of the nominated representative corporations (Section 5.5.6.1). Woodside's approach to providing individual Traditional Custodians the opportunity to self-identify and consult for an EP is as follows:

- Woodside applies the principles of self-determination when consulting with Traditional Custodians by consulting through the Traditional Custodians' authorised representative entities.
- Recognising the function of nominated representative corporations (such as PBCs) and Native Title Representative Bodies to represent communal interests and manage cultural values, Woodside requests that the information provided to representative entities is provided to their members but Woodside recognises the process is voluntary and Woodside cannot compel them to do so nor seek to audit the representative entities for compliance with any request.
- Representative entities cannot provide membership details to Woodside due to individual confidentiality requirements.
- Woodside requests advice as to who else Woodside should be consulting but recognises the process is voluntary and cannot compel nominated representative corporations to provide this information.
- Modern Indigenous engagement practices rely on the building and maintaining of respectful relationships. To date, most nominated representative corporations have requested the building of that relationship, where one is not already in place.
- While Woodside has, in some cases, approached individual directors and Elders outside of this process due to requirements imposed in EP consultation, this approach is considered inappropriate by modern Indigenous engagement standards, fundamentally undermining the authority of the authorised representative entity and can be detrimental to the relationship.

For this proposed activity, Woodside requested nominated representative corporations (including PBCs) and Native Title Representative Bodies to identify any potential individual relevant persons for consultation, and to distribute consultation materials to their member base. However, Woodside recognises the process is voluntary and it cannot compel them to do so nor seek to audit the representative entities for compliance with any request. Woodside has not been directed to engage individual Traditional Custodians by nominated representative corporations for this proposed activity. Woodside has nevertheless provided reasonable

²⁸ *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193, at [104].

opportunity for individual Traditional Custodians to engage in consultation through appropriate and adapted consultation methods.

5.5.6.2.1 Sufficient information

Woodside recognises that the information sufficient to allow a person or organisation to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities may vary and may depend on the degree to which a relevant person is potentially affected.

Woodside produces Consultation Information Sheets for each EP which are provided to relevant persons and organisations for the purpose of seeking feedback on the activity (Section 5.5). In response to feedback from Traditional Custodians on information provisions, Woodside has tailored effective consultation methods for its activities. These methods are specifically designed for Traditional Custodians, so that information is provided in a form that is readily accessible and appropriate. The targeted Summary Information Sheet is developed and reviewed by Woodside's First Nations team to ensure content is appropriate to the intended recipients, is then provided to relevant Traditional Custodian groups. Phone calls are made to provide context to the consultation.

Where face to face consultation meetings are requested, Woodside coordinates engagement at the Traditional Custodians' location of choice (where practicable) and with their nominated attendees. Along with members of Woodside's First Nations team, key project personnel and environmental experts are typically present to enable effective communication and prompt response to questions. Materials for these sessions incorporate visual aids such as photos, maps and videos, and plain language suitable for people with a non-technical background.

During consultation, Woodside provides relevant persons with additional information as appropriate in response to requests. There is no requirement to provide relevant persons with all information or documents requested and a titleholder will have provided sufficient information even where it has not provided all information or documents requested.

Woodside has sought to provide sufficient information to individual members of nominated representative corporations (such as PBCs) by providing information to representative bodies and requesting dissemination with members. However, Woodside recognises consultation is voluntary and it cannot compel them to do so, nor would it be appropriate to seek to audit the representative entities for compliance with any request.

5.5.6.3 Reasonable period for consultation

Woodside seeks to consult in order to support preparation of its EP. Woodside recognises that what constitutes a reasonable period for consultation should be considered on a case-by-case basis, with reference to the nature, scale and complexity of the activity (Section 5.5)

5.5.6.4 Discharge of Regulation 25

Woodside's consideration and approach to discharging Regulation 25 for relevant persons is discussed in Section 5.5.3. In addition to this, Woodside has considered the application of Regulation 25 specifically to First Nations based on the Tipakalippa Appeal.

In relation to Traditional Custodian relevant persons (and all relevant persons), Woodside has discharged its duty under Regulation 25. Woodside considers that consultation under Regulation 25 is complete (Section 5.5.3).

5.6 Providing feedback and assessment of merit of objections or claims

There are a number of ways in which feedback can be provided. Feedback can be provided through the Woodside feedback email or via the Woodside feedback toll free phone line as outlined in the Consultation Information Sheet and the Woodside website. Where appropriate, consultation may also be supported by phone calls or meetings. An EP feedback form is also available on Woodside's website enabling stakeholders to provide feedback on proposed activities, or to request additional information.

Woodside consults widely on its EPs and notes that feedback is received in various forms. Feedback that is considered inappropriate or that puts the environment, health, safety or wellbeing of Woodside employees or operations at risk will not be tolerated. Woodside respects people's rights to protest peacefully and lawfully but actions that put the environment, health, safety or wellbeing of Woodside employees or operations at risk go beyond those boundaries.

Woodside accepts feedback and engages in consultation in order to achieve the aims set out in Section 5.2. Woodside recognises that there are persons and organisations that take a view that Woodside's operations and/or growth projects should be stopped or at least delayed as far as possible. While Woodside assesses the merits of objections or claims received, it acknowledges NOPSEMA's guidance in its brochure entitled Consultation on offshore petroleum environment plans information for the community, which states that relevant persons are free to respond on any matter and raise any concern. However, this may not be able to be considered if it is outside the scope or purpose of the EP and approval process; for example, statements of fundamental objection to offshore petroleum activities or information containing personal threats or profanities. Under Regulation 34(g) of the Environment Regulations, there is no requirement for a relevant person to agree or confirm that they have been adequately consulted.

During consultation relevant persons may seek to introduce other issues (such as agreements) not specific to EP consultation. Concepts of agreements associated with broader consultation nevertheless consultation to specific EPs can occur.

Feedback from relevant persons is reviewed and an assessment of the merits is made of information provided as well as objections or claims about the adverse impact of each activity to which the EP relates. This might, for instance, be done through a review of data and literature and for relevance to the nature and scale of the activity outlined in the EP. Consistent with the aim of consultation in Section 5.2, Woodside will consider information received when reviewing and designing measures to put in place to minimise harm to relevant persons and where reasonable or practical to further manage impacts and risks to ALARP and acceptable levels.

Woodside considers feedback during consultation from relevant persons and other persons Woodside chose to contact (see Section 5.3.4). This information is summarised in Appendix F, Table 1 and Table 2 of the EP and includes a statement of Woodside's response, or proposed response, if any, to each objection and claim.

In accordance with Regulation 26(8) of the Environment Regulations, sensitive information (if any) in an EP, and the full text of any response by a relevant person to consultation under Regulation 25, must be contained in the sensitive information part of the plan and not anywhere else in the plan.

5.7 Ongoing consultation

Consultation can continue to occur during the life of an EP, including after an EP has been accepted by NOPSEMA.

As per Woodside's ongoing consultation approach (refer to Section 7), feedback and comments received from relevant persons continue to be assessed and responded to, as required, throughout the life of an EP, including during its assessment and once accepted, in accordance with the intended outcome of consultation.

Should consultation feedback be received following the acceptance of an EP that identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its management of change and revision process as appropriate (see Section 7.6.1).

6 ENVIRONMENTAL IMPACT AND RISK ASSESSMENT, PERFORMANCE OUTCOMES, STANDARDS AND MEASUREMENT CRITERIA

6.1 Overview

This section presents the impact and risk analysis and evaluation, EPOs, EPSs and MC for the Petroleum Activity, using the methodology described in Section 2.

6.2 Analysis and evaluation

As required by Regulations 21(5) and 21(6) of the Environment Regulations, the following analysis and evaluation demonstrates that the identified risks and impacts associated with the Petroleum Activity are reduced to ALARP, are of an acceptable level and considers all operations of the Petroleum Activity, including potential emergency conditions.

Impacts and risks identified during the ENVID (including decision type, current risk level, acceptability of risk and tools used to demonstrate acceptability and ALARP) have been divided into two broad categories:

- planned (routine and non-routine) activities
- unplanned events (accidents, incidents or emergency situations).

Within these categories, impact and risk assessment groupings are based on environmental aspect²⁹ (e.g. emissions, physical presence). For all hazardous events considered, the worst credible consequence was assumed.

The ENVID identified seven impacts and 11 risks associated with the Petroleum Activity. Planned activities and unplanned events are summarised in Table 6-1 and

Table 6-2. The assigned risk ratings were determined with controls in place as described in Section 2.5.

The analysis and evaluation for the Petroleum Activity indicate that current environmental risks and impacts associated with the Petroleum Activity are reduced to ALARP and are of an acceptable level, as discussed further in Section 6.7 to Section 6.8.

²⁹ An environmental aspect is an element of the activity that can interact with the environment.

Table 6-1: Environmental impact and risk analysis summary table – planned activities

Aspect	EP section	Source of impact	Key potential environmental impacts (refer to relevant EP section for details)	Severity level	Acceptability
Physical presence: disturbance to marine users	6.7.1	Pyrenees Facility, turret mooring system, subsea infrastructure, offtake tanker, OSV and IMMR operations	Potential isolated social impact potentially resulting from interference with other sea users (e.g. commercial and recreational fishing, and shipping)	1 – Minor	Tolerable
		Presence of subsea infrastructure including mid-depth buoy while Pyrenees Venture FPSO sail-away for maintenance, modification or repairs (~two to three months, contingency)	Interference with commercial shipping, fishing and/or other third-party vessels	1 – Minor	Tolerable
Physical presence: disturbance to the seabed	6.7.2	Presence of Pyrenees Facility, wells and subsea infrastructure modifying marine habitats	Localised modification of seabed habitat (formation of artificial reef) within Operational Area	1 – Minor	Tolerable
		Subsea operations, inspection, maintenance, and repair activities resulting in disturbance to seabed	Potential minor, localised modification and/or small area of damage to seabed habitat within Operational Area and smothering of benthic habitats.	1 – Minor	Tolerable
Routine light emissions: light emissions from FPSO lighting, vessel operations and operational flaring	6.7.3	Light emissions from Pyrenees Facility, vessels (including IMMR) and ROVs	Potential for short-term, localised behavioural disturbance of phototactic species in close proximity to Pyrenees Venture FPSO and vessels	1 – Minor	Tolerable
		Light emissions from Pyrenees Facility during flaring	Minor alterations to marine fauna behaviour in close proximity to the Pyrenees Venture FPSO	1 – Minor	Tolerable
Routine acoustic emissions: generation of noise during routine operations	6.7.4	Noise generated within the Operational Area from: - Pyrenees Venture FPSO and associated infrastructure - vessels including IMMR activities (e.g. ROVs, AUVs, side scan sonar, multibeam echo sounder, vessels on DP) and helicopters	Potential localised physical or behavioural impacts to marine fauna	1 – Minor	Tolerable
Routine and non-routine atmospheric and greenhouse gas emissions	6.7.5	Routine emissions from diesel driven machinery, gas-powered turbines and heaters, venting, and operational flaring onboard the Pyrenees Venture FPSO	Impacts to regional air-shed	1 – Minor	Tolerable
		Consideration of indirect emissions associated with third party transportation, oil refining and combustion by end users	GHG emissions and climate change	1 – Minor	Tolerable
Routine and non-routine discharges: marine discharges – PW	6.7.6	Discharge of PW and slops from Pyrenees Venture FPSO	Overboard discharges causing changes in water quality (hydrocarbon, chemical, temperature) leading to environmental impacts to biota within the Operations Area	1 – Minor	Tolerable
Routine and non-routine discharges: liquid waste and subsea fluids	6.7.7	Release of subsea chemicals or hydrocarbons by actuation of valves or during subsea operations and activities	Potential for toxic effect to fauna in close association with release point causing changes in water quality (hydrocarbon, chemical, temperature) leading to environmental impacts to biota within the Operations Area	1 – Minor	Tolerable
		Marine discharges of liquid wastes from Pyrenees Venture FPSO and vessel utility systems and drains (sewage, greywater, RO brine reject, cooling water, food waste, rainfall/deck washdown water, firewater deluge testing)	Changes in water quality and biota due to: - minor localised nutrient increase from surfactants (soaps and detergents) and chemicals to water column - minor increase in salinity - localised nutrient increase from food waste discharge - detergent, oil and grease discharge to the marine environment during rainfall or washdown activities	1 – Minor	Tolerable

Table 6-2: Environmental impact and risk analysis summary table – unplanned events

Aspect	EP section	Source of risk	Key potential environmental impacts (refer to relevant EP section for details)	Severity level	Likelihood	Risk level	Acceptability
Unplanned hydrocarbon release: loss of well containment	6.8.2	Release of hydrocarbons resulting from loss of well containment	Contamination/pollution of water column	5 – Severe	Highly Unlikely	30	Tolerable
		Pyrenees Venture FPSO off station (up to THREE months), leaks or weeps from wells will be left undetected until return	Contamination/pollution of water column	1 – Minor	Unlikely	1	Tolerable
Unplanned hydrocarbon release: loss of containment of bulk storage (crude)	6.8.3	Large release of Pyrenees crude oil from bulk storage on Pyrenees Venture FPSO	Acute/ chronic toxic effect on marine organisms from hydrocarbons	4 – Serious	Highly Unlikely	9	Tolerable
Unplanned hydrocarbon release: subsea infrastructure	6.8.4	Accidental releases/leaks of crude oil from subsea infrastructure	Contamination/pollution of water column	2 – Measurable	Unlikely	3	Tolerable
Unplanned hydrocarbon release: offtake operations	6.8.5	Release of crude from equipment failure or processes (offloading, transferring)	Acute/ chronic toxic effect on marine organisms from hydrocarbons	3 – Substantial	Highly Unlikely	3	Tolerable
Unplanned hydrocarbon release: turret operations	6.8.6	Hydrocarbon spill from failure during turret operations	Contamination/pollution of water column	1 – Minor	Unlikely	1	Tolerable

Aspect	EP section	Source of risk	Key potential environmental impacts (refer to relevant EP section for details)	Severity level	Likelihood	Risk level	Acceptability
Unplanned hydrocarbon release: diesel spill from bulk storage	6.8.7	Diesel spill from ruptured fuel tank due to vessel collision	Contamination/pollution of water column	2 – Measurable	Highly Unlikely	0.9	Tolerable
Unplanned hydrocarbon or chemical release	6.8.8	Hydrocarbon spills/hazardous chemicals or liquid waste, accidental leaks from storage or equipment, including ROVs	Contamination/pollution of water column	1 – Minor	Possible	3	Tolerable
		Spills from bulk transfer of chemical from support vessels to Pyrenees Venture FPSO (bulk contents up to 2,000 L)	Contamination/pollution of water column	2 – Measurable	Unlikely	3	Tolerable
		Diesel spill due to human error/equipment failure during bunkering	Contamination/pollution of water column	1 – Minor	Unlikely	1	Tolerable
Unplanned discharges: hazardous and non-hazardous waste management	6.8.9	Incorrect disposal or accidental discharge of non-hazardous and hazardous waste to the marine environment	Impacts to marine fauna and/or water quality	1 – Minor	Highly Unlikely	0.3	Tolerable
		Dropped objects from support/logistical operations – vessel to vessel lifting (e.g. containers and materials)	Impacts to marine fauna and/or water quality	1 – Minor	Unlikely	1	Tolerable
Physical presence (unplanned): interaction with live infrastructure	6.8.10	Dropped objects from support/logistical operations – interaction with live infrastructure causing loss of containment	Contamination/pollution of water column	2 – Measurable	Unlikely	3	Tolerable
Physical presence: vessel collision with marine fauna	6.8.11	Physical presence of vessels resulting in collision with marine fauna	Potential injury or death of marine fauna (single animal), including protected species	1 – Minor	Unlikely	1	Tolerable
Physical presence: introduction of invasive marine species	6.8.12	Movement of vessels from known high IMS risk areas	Potential introduction of IMS possibly resulting in an alteration of the localised environment and major impact to native species	3 – Substantial	Unlikely	10	Tolerable

6.3 Cumulative impacts

In this EP Woodside has assessed the potential cumulative impacts of the Petroleum Activity in relation to other relevant activities which could realistically result in overlapping temporal and spatial extents. Other facilities located in close proximity to the Pyrenees Facility consist of the Woodside Ngujima-Yin FPSO, Woodside Macedon Field, and the Santos Ningaloo Vision FPSO (Table 4-24 and Figure 4-21). The Macedon Field Operational Area overlaps the Pyrenees Operational Area in proximity to one well (Macedon-6) (Figure 3-1 and Figure 4-22). Where relevant this EP considers cumulative impacts from the Petroleum Activity alongside potential impacts from other nearby oil and gas activities.

Given the sources of environmental risks and impacts from the Petroleum Activity are concentrated around the Pyrenees Venture FPSO, the potential for cumulative impacts is considered to be low. Cumulative impacts are discussed for sources of risk and impacts where such impacts were deemed to be credible.

6.4 Environmental performance outcomes, standards and measurement criteria

Regulation 21(7) of the Environment Regulations requires that an EP includes EPOs, EPSs and MC that address legislative and other controls to manage the environmental risks and impacts of the activity to ALARP and Acceptable levels.

The EPOs, EPSs and MC specified are consistent with legislative requirements and Woodside's standards and procedures. They have been developed based on the LCS, GP and PJ, as part of the acceptability and ALARP justification process.

As defined in Regulation 5 of the Environment Regulations, an EPO *"for an activity, means a measurable level of performance required for the management of environmental aspects of the activity to ensure that environmental impacts and risks of the activity will be of an acceptable level"*.

EPOs are set to ensure they are consistent with the principles of ESD as defined in section 3A of the EPBC Act and demonstrated through the acceptability process, which is applied to each aspect in Section 6, taking into consideration the principles of ESD. The EPOs have been set at a level of environmental performance that is equal to the identified environmental impact or risk.

Impact based EPOs, where qualitative terms (e.g. prevent, limit) are used in EPOs, they are supported by detailed impact assessment in Section 6 such that they can be interpreted as meaning *"impact and risk greater than that predicted in this EP"*.

A risk-based EPO ties in with Woodside's risk management processes so that risk is maintained within a level that has been evaluated as being appropriate to the nature and scale of the risk. Relevant controls are used to identify and treat potential step-outs (resulting in an increased likelihood) from expected controls performance or integrity envelopes.

EPSs and MC are defined to measure environment performance against the EPOs:

- EPS are statements of performance required of a control measure in order to manage risk and/or impacts to ALARP and acceptable level. EPS are used as a basis for environmental performance reporting and demonstrates compliance against the EPO.
- MCs are outlined defining how environmental performance is measured and sets the criteria to determine whether the EPO and EPS have been met during the Petroleum Activity.

For planned activities, where the activity is undertaken as described and the relevant EPSs are implemented it confirms that the EPOs are being met.

The EPOs, EPSs and MC are presented throughout Sections 6.7 and 6.8 and Appendix H (oil spill preparedness and response mitigation assessment). A breach of these EPOs or standards constitutes a 'Recordable Incident' under the Environment Regulations (refer to Section 7.14.6).

6.5 Presentation

The analysis and evaluation (ALARP and acceptability), EPOs, EPSs and MC are presented in tabular form throughout this section, as shown in the sample below. Italicised text in this example table denotes the purpose of each part of the table, with reference to the relevant sections of the Environment Regulations and/or this EP.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.		
Controlled Ref No: PYHSE-E-001	Revision: 23	Page 239 of 530
Uncontrolled when printed. Refer to electronic version for most up to date information.		

Context														
Description of the context for the impact/risk. Regulation 21(1) 21(2) and 21(3)														
Description of the activity – Regulation 21(1)				Description of the environment – Regulations 21(2)(3)				Consultation – Regulation 25						
Impacts and risks evaluation summary														
Summary of ENVID outcomes														
Source of impact/risk Regulation 21(1)	Environmental value potentially impacted Regulations 21(2)(3)							Evaluation Section 2						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Summary of source of risk/impact														
Description of source of risk or impact														
Description of the identified risk/impact including sources or threats that may lead to the impact/risk or identified event. Regulation 21(1).														
Impact or consequence assessment														
Environmental value/s potentially impacted														
Discussion and assessment of the potential impacts to the identified environment value/s. Regulation 21(5)(6). Description of potential impacts to environmental values aligned to Woodside PetDW Risk Matrix consequence descriptors.														

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁰	Benefit in impact/risk reduction	Proportionality	Control adopted
ALARP/hierarchy of control tools used – Section 2.6.2				
Summary of control considered to ensure the impacts and risks are continuously reduced to ALARP. Regulation 21(5)(c).	Technical/logistical feasibility of the control. Cost/sacrifice required to implement the control (qualitative measure).	Qualitative commentary of impact/risk that could be averted/ environmental benefit gained if the cost/sacrifice is made and the control is adopted.	Proportionality of cost/sacrifice vs environmental benefit. If proportionate (benefits outweigh costs), the control will be adopted. If disproportionate (costs outweigh benefits), the control will not be adopted.	If control is adopted, reference to Control No. provided.
ALARP is demonstrated through controls being analysed for selection, based on their independence, and prioritised in accordance with hierarchy of controls, and further analysed to consider the type of effect the control provides.				

³⁰ Qualitative measure.

Demonstration of ALARP**ALARP statement:**

Made on the basis of the environmental risk/impact assessment outcomes, use of the relevant tools appropriate to the Decision Type (Section 2.7.1) and a proportionality assessment. Regulation 34(b).

Demonstration of acceptability**Acceptability statement:**

Made on the basis of applying the process described in Section 2.7.2 and taking into account internal and external expectations, risk/impact to environmental thresholds and use of environment decision principles. Regulation 34(c)

EPOs, EPSs and MC

Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
EPO No. <i>S: Specific performance that addresses the legislative and other controls that manage the activity, and against which performance by Woodside in protecting the environment will be measured.</i> <i>M: Performance against the outcome will be measured through implementation of the controls via the MC.</i> <i>A: Achievability/feasibility of the outcome demonstrated via discussion of feasibility of controls in ALARP demonstration. Controls are directly linked to the outcome.</i> <i>R: The outcome will be relevant to the source of risk/impact and the potentially impacted environmental value³¹.</i> <i>T: The outcome will state the timeframe during which the outcome will apply or by which it will be achieved.</i>	C No. <i>Identified control adopted to ensure that the impacts and risks are continuously reduced to ALARP.</i> <i>Regulation 21(5)(c).</i>	PS No. <i>Statement of the performance required of a control measure.</i> <i>Regulation 21(7)(a).</i>	MC No. <i>MC for determining whether the outcomes and standards have been met. Regulation 21(7)(c).</i>

6.6 Environment risk/impacts not deemed credible

The ENVID identified one source of environmental risk/impact that was assessed as not being applicable (not credible) within or outside the Operational Area as a result of the Petroleum Activity, and therefore is described here for information only:

- Shallow/nearshore activities: The Petroleum Activity is located in water depths of between 180 m and 200 m and at a distance approximately 16 km from nearest landfall (Muiron Islands). Consequently, risks and impacts associated with shallow-water or near-shore activities such as anchoring and vessel grounding were assessed as not credible.

³¹ Where impact/consequence descriptors are capitalised and presented within EPOs in Section 6; performance levels correspond with those aligned with the Woodside PetDW Risk Matrix (refer Section 2.6).

6.7 Planned activities (routine and non-routine)

6.7.1 Physical presence: disturbance to marine users

Context														
Facility layout and description – Section 3.5 Support services – Section 3.17 Subsea IMMR activities – Section 3.19				Socio-cultural environment – Section 4.9.5.3.110				Consultation – Section 5						
Impacts evaluation summary														
Source of impact	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Pyrenees Venture FPSO, turret mooring system, subsea infrastructure, offtake tanker, OSV and IMMR operations							x	A	1 – Minor	-	-	LCS GP PJ	Tolerable	EPO 1
Presence of subsea infrastructure including mid-depth buoy while Pyrenees Venture FPSO sail away for maintenance, modification or repairs (~two to three months, contingency)							x	A	1 – Minor	-	-			
Source of impact														
The Pyrenees Facility commenced operation in 2010 and has been marked on nautical charts since that time. The Pyrenees Venture FPSO and subsea equipment are surrounded by a 500 m radius PSZ, which non project vessels are prohibited from entering, unless authorised by Woodside. The PSZ is a critical safety control intended to reduce the likelihood of interactions between vessels and the Pyrenees Venture FPSO, subsequently increasing safety for both vessels and the Pyrenees Facility. Implementation of the PSZ excludes other users from a small area of the sea (approximately 0.79 km²). The presence of the Pyrenees Facility (FPSO, subsea infrastructure) and supporting vessels, may be a potential obstacle (exclusion from area) or collision risk/navigational hazard to other marine users (fisheries and/or shipping vessels) in the area. The Pyrenees Venture FPSO and supporting vessels are clearly visible under most conditions and are well lit according to navigational and safety requirements. The nature of the Pyrenees Venture FPSO (e.g. a large steel structure) also ensures a clear radar return to alert ships fitted with anti-collision radars. There are approximately 8 offtakes from the FPSO annually and offtake vessels will enter the Operational Area accordingly. Routine and non-routine vessel activities associated with the Petroleum Activity are generally concentrated within the PSZ (e.g. activities performed by support vessels at the Pyrenees Venture FPSO) but can occur anywhere within the Operational Area. Subsea support vessels will undertake activities, such as IMMR activities within the Operational Area at any time. The duration and location of these activities varies depending on the Petroleum Activity being undertaken. Routine IMMR activities typically require one vessel with 24hr operations, for no more than one or two weeks per year. Non-routine IMMR activities typically require one IMMR vessel, but may require up to two, with 24-hour operations for approximately two weeks per activity. All infrastructure within the scope of this EP is marked on navigation charts.														

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Impact assessment

The Petroleum Activity has the potential to exclude or displace other marine users. In some instances exclusion or displacement may be temporary, i.e. from vessel presence during IMMR activities, or permanent, i.e. from the ongoing presence of subsea infrastructure. The following paragraphs describe how specific other marine users may be impacted during the Petroleum Activity.

Commercial fishing

A number of commercial fisheries overlap the Operational Area with only four having potential for interactions with the Petroleum Activity (Section 4.9.5.3.1). The State-managed Pilbara Line Fishery, Pilbara Trap Fishery, Mackerel Managed Fishery and West Coast Deep Sea Crustacean Managed Fishery are considered to have some limited potential for interaction with project activities in the Operational Area (Section 4.9.5.3.1).

Commercial fishing vessels in the vicinity of the Operational Area are most likely to be licenced under the Pilbara Line Fishery and may employ several gear types (including trap and line) (Table 4-23). The Pilbara Line Fishery (condition) is active in the EMBA, with the 60 NM CAES block reporting up to five licences across the 2017 to 2022 seasons. The Pilbara Line Fishery licencees target 45 to 50 catch species and are permitted to operate anywhere in Pilbara waters, overlapping the Operational Area and EMBA. A small area of the Operational Area lies within Zone 2 of the fishery, which allows Pilbara trap fishing only. The Zone 2 fishery has a total area of approximately 24,580 km²; the portion of this zone that overlaps the Operational Area is approximately 90 km², which is less than 0.4% of the total Zone 2 fishery area. As such, impacts from the physical presence of the Pyrenees Facility and subsea infrastructure to this fishery are expected to be confined to localised displacement of fishing effort from the Operational Area.

The Mackerel Managed Fishery reported three to seven active fishers between the 2017 to 2022 seasons, with consistent fishing effort since 2012. Previous fishing effort indicates fishing concentrated in coastal Pilbara reefs north-east of the Operational Area. The managed fishery boundary entirely overlaps the Operational Area.

The West Coast Deep Sea Crustacean Managed Fishery reported three active vessels, in the 60 NM CAES block overlapping the Operational Area.

Based on historic catch data, there are no other commercial fisheries known to use the Operational Area.

Tourism and recreation

Tourism and recreation activity in the Operational Area is expected to be infrequent, with recreational and charter fishing from vessels the only tourism and recreation activities identified as potentially occurring in the Operational Area. Any recreational and charter fishing from vessels is largely undertaken using lines.

Fishing effort for tourism charter operators were reported at the 10NM reporting blocks overlapping the Operational Area, with up to three vessels active during the 2020-2021 season.

The annual GAMEX fishing tournament (usually run in March by the Exmouth Game Fishing Club) may result in increased offshore recreational fishing. Operational experience to date has not indicated adverse interactions with recreational fishers occurs during GAMEX. Woodside's experience gained from operating the Nganhurra and Pyrenees Venture FPSOs has shown that very little recreational (including charter) fishing takes place in the vicinity of the Operational Area. Consultation outcomes did not indicate any recreational fishing occurs within the Operational Area (Section 5).

Given the distance from boating facilities (nearest established boat ramps and marina are at Tantabiddi, approximately 42 km from the Operational Area), lack of natural attractions and water depth of the Operational Area, very little interaction with tourism and recreational activities is expected to occur during the Petroleum Activity. As such, impacts to recreational and charter fishing are expected to be localised and of no lasting effect.

Shipping

Significant commercial shipping occurs in the broader region where the Operational Area is located, with commercial shipping traffic comprising vessels such as:

- bulk carriers (e.g. mineral ore, salt) from Port Hedland and Dampier
- offtake tankers
- support vessels for offshore oil and gas activities
- LNG carriers from Dampier, Barrow Island and Ashburton North.

To reduce the likelihood of interactions between commercial vessels and offshore facilities, AMSA have introduced a series of shipping fairways within which commercial vessels are advised to navigate. The fairways are not mandatory; however, AMSA strongly recommends commercial vessels remain within the fairway when transiting the region. The use of shipping fairways is considered to be good seafaring practice, with AUSREP data from AMSA indicating cargo ships and tankers routinely navigate within the established fairways.

The fairway intended to direct north-/south-bound vessel traffic from Barrow Island and the southern Montebello Islands does not overlap the Operational Area.

The presence of the Pyrenees Facility, vessels and subsea infrastructure will not result in impacts to commercial shipping beyond a localised exclusion of shipping traffic from the PSZ and the temporary displacement of commercial shipping due to the presence of subsea support vessels undertaking activities in the Operational Area.

Oil and gas

The Macedon Subsea Gas Field is 5 km east and Ngujima-Yin FPSO is 6.6 km south-east. The nearest facility not operated by Woodside is the Ningaloo Vision FPSO, which lies approximately 9.4 km south of the Operational Area (Section 4.10.5). Given the distance between the Operational Area and petroleum activities undertaken by other operators, no impacts to other operators will occur as a result of the presence of the Pyrenees Venture FPSO, subsea infrastructure or project vessels.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
Contract vessels compliant with Marine Orders for safe vessel operations: - Marine Order 21 (Safety and emergency procedures) 2016 - Marine Order 27 (Safety of navigation and radio equipment) 2016 - Marine Order 30 (Prevention of collisions) 2016.	F: Yes. CS: Minimal cost. Standard practice.	Marine Orders 21, 27 and 30 are required under Australian regulations; implementation is standard practice for commercial vessels as applicable to vessel size, type and class. Compliance with Marine Orders 21, 27 and 30 reduces the likelihood of adverse interaction of vessels with other marine users.	Control based on legislative requirement – must be adopted.	Yes C 1.1
Implementation of a 500 m PSZ around the Pyrenees Venture FPSO to reduce the likelihood of interaction of vessels with the Pyrenees Venture FPSO.	F: Yes. CS: Minimal cost. Standard practice.	The PSZ is a requirement under Australian regulations and reduces the likelihood of interaction of vessels with the Pyrenees Venture FPSO.	Control based on legislative requirement – must be adopted.	Yes C 1.2
Good practice				
Permanent infrastructure is shown on AHO marine charts.	F: Yes. CS: Minimal cost. Standard practice.	Notification of AHO will enable them to update maritime charts, thereby reducing the likelihood of interactions with Pyrenees infrastructure.	Benefits outweigh cost/sacrifice.	Yes C 1.3
Consultation undertaken in support of the Petroleum Activity to ensure marine users are informed and aware of the Petroleum Activity.	F: Yes. CS: Minimal cost. Standard practice.	Consultation keeps marine users ensures they are informed and aware, thereby reducing the likelihood of interactions with Pyrenees infrastructure.	Benefits outweigh cost/sacrifice.	Yes C 1.4
Notify AHO of activities where vessels will be in the Operational Area, but outside of the PSZ >three weeks, no less than four working weeks prior to scheduled activity commencement date.	F: Yes. CS: Minimal cost. Standard practice.	Notification of AHO will enable them to issue a Maritime Safety Information Notification and Notice to Mariners, thereby reducing the likelihood of unplanned interactions with other vessels.	Benefits outweigh cost/sacrifice.	Yes C 1.5

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
Notify AMSA's Response Centre of activities where vessels will be in the Operational Area, but outside of the PSZ >three weeks, 24 to 48 hours before activities commence.	F: Yes. CS: Minimal. Standard practice.	Communicating the Petroleum Activity to other marine users ensures they are informed and aware should emergency response be required.	Benefits outweigh cost/sacrifice.	Yes C 1.6
Professional judgement – Eliminate				
Reduce the size of the PSZ	F: No. The PSZ is mandated by the OPGGS Act and is a safety and environment critical element; it cannot be reduced. CS: Not assessed, control not feasible.	Not assessed, control not feasible.	Not assessed, control not feasible.	No
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
None identified.				
Professional judgement – Procedures and administration				
The Pyrenees Venture FPSO's NAVAIDS Critical Equipment Performance Standard is implemented to alert marine vessels of the facility location.	F: Yes. CS: Minimal cost. Standard practice.	The Pyrenees Venture FPSO's NAVAIDS equipment can alert marine vessels of the facility location, which reduces the likelihood of adverse interaction with other marine users.	Control is a company management system requirement – must be adopted.	Yes C 1.7
Install over-trawl protection on subsea infrastructure.	F: Yes. Ove-trawl protection on subsea infrastructure could be fitted to Pyrenees subsea infrastructure. CS: Significant additional cost associated with the design and installation of trawl protection on subsea infrastructure.	Overtrawl protection on subsea infrastructure could mitigate against the potential for commercial fishing trawl gear to damage infrastructure or result in gear loss. However, trawl fishing is unlikely to happen within the Operational Area.	Given the limited portion of the Operational Area that lies within the area open to trawl fishing, the cost of installing overtrawl protection is grossly disproportionate to the environmental benefit.	No
ALARP statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the potential impacts of the physical presence of the Pyrenees Facility, subsea infrastructure and vessels on other users. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of acceptability

Acceptability statement:

The impact assessment has determined that, given the adopted controls, the physical presence of the Pyrenees Venture FPSO, subsea infrastructure and vessels represent a minor impact that is unlikely to result in a potential impact greater than an isolated social impact to commercial fishing, recreational fishing and/or shipping. The adopted controls are considered good oil-field practice/industry best practice and meet requirements of Australian Marine Orders, and expectations of AMSA and AHO provided in consultation with relevant persons. Further opportunities to reduce the impacts and risks have been investigated above.

The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of physical presence of the Pyrenees Facility and support vessels to a level that is tolerable and demonstrate the EPOs are met.

EPOs, EPSs and MC

<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
EPO 1 Impacts to relevant stakeholders from the planned activities will be limited through the provision of appropriate information/ notification.	C 1.1 Vessels compliant with Marine Orders for safe vessel operations: - Marine Orders 21 (Safety of navigation and emergency procedures) 2016 - Marine Order 27 (Safety of navigation and radio equipment) 2016 - Marine Orders 30 (Prevention of collisions) 2016.	PS 1.1 Vessels comply with Marine Orders as applicable to vessel size, type and class.	MC 1.1 Marine verification records demonstrate compliance with standard maritime safety procedures (Marine Orders 21, 27 and 30).
	C 1.2 Maintenance of 500 m PSZ around Pyrenees Venture FPSO.	PS 1.2 PSZ maintained and monitored for incursions.	MC 1.2 Records of unauthorised interactions in 500 m PSZ with other marine users are entered into Incident database.
	C 1.3 Permanent infrastructure is shown on AHO marine charts.	PS 1.3 Woodside will notify AHO of location of new permanent Pyrenees infrastructure.	MC 1.3 Records demonstrate AHO has been notified of location of new permanent Pyrenees infrastructure.
	C 1.4 Undertake consultation program to advise relevant persons of the Petroleum Activity and provide opportunity to raise objections or claims.	PS 1.4 Implement a consultation process that conforms to the requirements of the Environment Regulations	MC 1.4 Records demonstrate a consultation program that conforms to the requirements of the Environment Regulations has been undertaken (refer to Section 5).
	C 1.5 Notify AHO of activities where vessels will be in the Operational Area (but outside of the PSZ) for >three weeks, no less than four working weeks prior to scheduled Petroleum Activity commencement date.	PS 1.5 Woodside to notify AHO of activities where vessels will be in the Operational Area (but outside of the PSZ) >three weeks, to allow generation of navigation warnings.	MC 1.5 Records demonstrate that AHO notifications complete.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
	C 1.6 Notify AMSA's Response Centre of activities where vessels will be in the Operational Area (but outside of the PSZ) >three weeks, 24 to 48 hours before activities commence.	PS 1.6 AMSA's Response Centre is notified 24 to 48 hours before mobilisation for activities in the Operational Area (but outside the PSZ) >three weeks, for awareness should emergency response be required.	MC 1.6 Records demonstrate that AMSA Response Centre notifications are complete.
	C 1.7 The Pyrenees NAVAIDS Critical Equipment Performance Standard is implemented to alert marine vessels of the facility location, which reduces the likelihood of adverse interaction with other marine users.	PS 1.7 NAVAID critical equipment is managed in accordance with the Pyrenees NAVAIDS Critical Equipment Performance Standard to prevent environment risk by: • alerting facility of a potential collision with marine vessels • alerting marine vessels of facility location so they may take timely action to avoid the facility and hence reduce the likelihood of collision.	MC 1.7 Records demonstrate compliance with Performance Standard requirements.

6.7.2 Physical presence: disturbance to the seabed

Context														
Subsea infrastructure and layout description – Section 3.5 Pyrenees Facility – Section 3.11 Subsea IMMR activities – Section 3.19				Physical environment – Section 4.4 Biological environment – Section 4.5				Consultation – Section 5						
Impacts evaluation summary														
Source of impact	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Presence of Pyrenees Facility subsea infrastructure modifying marine habitats		x	x		x			A	1 – Minor	-	-	LCS GP PJ	Tolerable	EPO 2, 3
Subsea operations, inspection, maintenance and repair activities resulting in disturbance to the seabed		x	x		x			A	1 – Minor	-	-			
Source of impact														
Seabed disturbance or modification associated with the Petroleum Activity can occur during operations and other activities, including from: - physical presence of the Pyrenees Venture FPSO and subsea infrastructure (operational and suspended) - scour, spans and flowline movement inherent in design - subsea IMMR activities (Section 3.19).														
Presence of infrastructure The presence of subsea infrastructure may result in localised scouring around the infrastructure due to currents, subsurface waves, and seabed sediment fluid dynamics. Scour around subsea infrastructure may necessitate IMMR activities as part of integrity management practices. Flowline movement may occur as per design and within integrity margins along the flowline corridor. Normal flowline operational movement occurs due to factors such as flowline buckling, walking and varying metocean conditions. Lateral movement can occur within the flowline corridor. The extent of any flowline buckling and walking would be restricted to the Operational Area, and for safety reasons, Woodside will manage buckling and walking to within design limits.														
IMMR activities In order to maintain the integrity of subsea infrastructure, Woodside undertakes routine subsea IMMR activities, as described in Section 3.19. Activities that constitute IMMR may impact upon the benthic environment in the vicinity of the Petroleum Activity. IMMR activities identified as impacting the benthic environment include: - inspections – minor, localised sediment resuspension by ROV - scale and marine growth removal – minor, localised resuspension of sediment; removal of marine biota from subsea infrastructure - sediment relocation – minor, localised modification of benthic habitat and sediment resuspension - span rectification - jumper and umbilical replacement – minor, localised modification of benthic habitat in the vicinity of the jumper/umbilical														

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- temporary laying of tools on seabed (e.g. seabed baskets) – minor, localised modification of benthic habitat in the vicinity of the basket
- laying of infrastructure during non-routine repair and/or replacement activities.

The area of benthic habitat predicted to be impacted varies depending on the nature and scale of the IMMR activity. Span rectification activities are IMMR activities with the greatest potential to modify benthic habitats, due to the alteration of the existing soft sediment habitat to hard substrate. Woodside's operational experience on the NWS indicates these activities are typically restricted to relatively short (tens of metres) linear sections of flowlines, with areas of up to approximately 100 m² impacted.

Under routine operations, anchoring of vessels undertaking IMMR is avoided in the Operational Area but there may be non-routine activities that require anchoring for safety reasons.

Impact assessment

Water and sediment quality

Seabed disturbance may include localised and temporary decline in water quality due to an increase in suspended sediment concentrations and sediment deposition caused by IMMR activities. However, sediment loads are not expected to be significant due to the relatively small footprint for each Petroleum Activity (IMMR activities described above, and in Section 3.19).

Each discrete IMMR activity near the seabed is likely to cause a single brief disturbance resulting in a transient plume of suspended sediment. This plume will subsequently be deposited down current as particles resettle. Such localised and short-term events may affect small areas of the seabed and consequently, impact the associated biota (typically sparsely distributed infauna and sessile epifauna). Such impacts are expected to be minor (e.g. ingestion of suspended sediment); impacts such as smothering of sessile biota are not expected to occur.

Benthic habitats

The benthic habitat within the Operational Area is predominantly soft sediment with sparsely associated epifauna which is broadly represented throughout the NWS Province and wider NWS (Section 4.5). Benthic communities of the soft sediment seabed are characterised by burrowing infauna such as polychaetes, with biota such as sessile filter feeders occurring on areas of hard substrate (such as subsea infrastructure).

The infauna communities are also representative of the NWS province; being of low abundance and dominated by polychaetes and crustaceans (RPS Environment and Planning, 2012).

IMMR activities may result in potential impacts that may be categorised as:

- direct physical disturbance of benthic habitat
- indirect disturbance to benthic habitats from activities such as sediment relocation.

As mentioned, flowline movement is limited to within design and integrity envelopes and may result in minor, localised impact to soft sediment benthic habitats, typically on the scales varying between metres to tens of metres laterally along the flowline corridors.

Direct seabed disturbance, including permanent modification of benthic communities, may result as a consequence of IMMR activities such as span rectification, flowline protection and stabilisation. These activities will typically disturb a small area (typically <100 m²) of soft sediment habitat, which is broadly represented in the Operational Area and wider NWS region. This habitat will be replaced by hard substrate (e.g. concrete mattresses, rocks), which is generally uncommon in the middle and outer NWS region.

Over time, this hard substrate is expected to be colonised by sessile benthic biota (e.g. sponges, gorgonians), which may support higher biodiversity benthic fauna (such as fish assemblages) than soft sediment habitats. The estimated overall extent of such direct seabed disturbance is extremely small in relation to the extent of the soft sediment habitats which are broadly represented within the Operational Area and the wider NWS Province.

Artificial habitat

Subsea infrastructure provides hard substrate for the settlement of marine organisms; the availability of hard substrate is often a limiting factor in benthic communities. As such, the presence of infrastructure has led to the development of ecological communities which would not have existed otherwise. For example, pipeline infrastructure has been shown to support more diverse fish assemblages and benthic biota (McLean et al., 2017; Bond, 2018). These communities are relatively diverse compared to the open water and soft sediment habitats in the broader Operational Area.

Key ecological features

Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula

The KEF is recognised for the unique physical structure of the seafloor and the biodiversity it supports. Studies published by Post et al. (2021) indicate the range of characteristics of the region to include near vertical cliffs, and sediment covered slopes on the upper continental slopes. The canyons are associated with upwelling as they channel deep nutrient-rich waters onto the continental shelf (Brewer et al., 2007), interacting with the Leeuwin Current at the canyon heads (Sleeman et al., 2007). Hard substrates dominate the canyons and provide repositories for particulate matter deposited from the shelf and sides of the canyons and provide habitats for deepwater snappers and other species (Brewer et al., 2007).

The few sediment samples that have been collected from the region indicate sandy to gravelly sediments on the upper shelf and typically muddy sediments on the Exmouth Plateau (Geoscience Australia, 2017). These studies are supported by Thomson & Heimann (2014), concluding the diverse presence of sediment types, including fine-grained silts, sands, and occasional gravels are the key contributing factor to the overall biodiversity and ecological functioning of the seabed.

Given the relatively small overlap of the Operational Area with the Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula, the distance from the key Canyon features of the KEF, and nature of the IMMR activities, impacts to the KEF are likely to be minor.

Continental Slope Demersal Fish Communities

The Continental Slope Demersal Fish Communities KEF supports a high diversity of demersal fish assemblages, including 76 species across the KEF that are considered endemic (Last et al., 2005). Like the Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula, the substrate comprising the Continental Slope Demersal Fish Communities KEF is characterised by a diverse range of sediment types, such as fine, muddy and gravelly sands (Thomson & Heimann, 2014). These diverse sediment compositions and associated seabed habitats contribute to the high biodiversity and productivity of the region. Any direct seabed disturbance from the Petroleum Activity will be localised and of a short duration, without compromise of the values and key features of the KEF due to the small portion of the KEF that could be impacted and the nature of the activities that are likely to occur associated with the Petroleum Activity.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³²	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
An ROV survey is undertaken post maintenance or repair activity to confirm temporary equipment has been removed and to record location of new subsea infrastructure.	F: Yes. CS: Minimal cost ROV as-left survey is standard practice.	In accordance with OPGGS Act Section 572, all equipment is removed when neither used nor to be used in connection with the operations.	Legislative requirement.	Yes C 2.1
Monitoring and maintenance of subsea infrastructure to manage equipment integrity, scour and flowline movement within integrity envelope.	F: Yes. CS: Minimal cost. Standard practice.	Monitoring and maintenance of subsea infrastructure confirms benthic seabed disturbance is limited to design flowline corridor.	Benefits outweigh cost/sacrifice.	Yes C 2.2
Good practice				
Anchoring in the Pyrenees Venture FPSO PSZ is prohibited, except in emergency situations or under issuing of a specific permit.	F: Yes. CS: Minimal cost.	By minimising anchoring, to emergency use only, the potential impact to benthic habitat is reduced.	Benefits outweigh cost/sacrifice.	Yes C 2.3
Location of subsea infrastructure brought into the Operational Area is tracked and recorded.	F: Yes. CS: Minimal cost. Standard practice.	In accordance with OPGGS Act Section 572(3), the location of equipment is tracked to enable future removal.	Benefits outweigh cost/sacrifice.	Yes C 2.4

³² Qualitative measure.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³²	Benefit in impact/risk reduction	Proportionality	Control adopted
Unexpected finds of potential UCH sites/features, including First Nations UCH, are managed in accordance with the Unexpected Finds Procedure set out in Section 7.9.	F: Yes. CS: Cost of implementation.	Allows management of Unexpected Finds in accordance with legislative requirements (including Underwater Cultural Heritage Guidance for Offshore Developments and the guidelines for assessing and managing impacts to underwater cultural heritage (DCCEEW 2024b, expert advice and community expectations.	Benefits outweigh cost/sacrifice.	Yes C 3.1
Report any potential UCH finds to relevant stakeholders and authorities in accordance with the Unexpected Finds Procedure, <i>Underwater Cultural Heritage Act 2018</i> and the <i>Aboriginal and Torres Strait Islander Heritage Protection Act</i> .	F: Yes. CS: Minimal costs associated with reporting process.	Meets legislative requirements and community expectations.	Benefit outweighs cost/sacrifice.	Yes C 3.2
Relevant vessel crew and ROV operators will be advised in an induction of the potential to encounter UCH and requirement to follow the Unexpected Finds Procedure	F: Yes. CS: Minimal costs associated with reporting process.	Ensures workforce are suitably aware of legal and process requirements for managing cultural features and heritage values.	Benefits outweigh cost/sacrifice.	Yes C 3.3
Professional judgement – Eliminate				
Do not use ROV close to, or on, the seabed.	F: No. The use of ROVs (including work close to or occasionally landed on the seabed) is critical as the ROV is an integral part of IMMR activities. CS: Not assessed, control not feasible.	Not assessed, control not feasible.	Not assessed, control not feasible.	No
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
None identified.				

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³²	Benefit in impact/risk reduction	Proportionality	Control adopted
Monitoring of seabed surrounding the Pyrenees Facility and subsea infrastructure.	F: Yes. ROV footage collected as part of subsea integrity surveys could be reviewed to observe and detect changed in benthic habitats. CS: Costs associated with the review of collected footage.	Limited environmental benefit (information) gained from specific monitoring of benthic habitats as there are no routine operations activities that are expected to result in more than a minor and temporary impact.	Given the low sensitivity of the environment surrounding the Pyrenees Facility and associated subsea infrastructure. Any environmental benefit gained is outweighed by costs associated with implementing control.	No

ALARP statement:

On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts of seabed disturbance from subsea activities. As no reasonable additional / alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.

Demonstration of acceptability
Acceptability statement: The impact assessment has determined that, given the adopted controls, seabed disturbance from subsea activities represents minor short-term impact to benthic habitats. Further opportunities to reduce the impacts have been investigated above. The adopted controls are considered good oil-field practice/industry best practice. The potential impacts are considered broadly acceptable if the adopted controls are implemented. The inclusion of C 2.1 and C 2.2 will confirm the activity is undertaken as described. Therefore, Woodside considers the adopted controls appropriate to manage the impacts of subsea activities to a level that is tolerable and demonstrate that the EPOs are met.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
EPO 2 Seabed disturbance will be limited to planned activities and impacts described as part of the Petroleum Activity and will not occur outside the Operational Area.	C 2.1 An ROV survey is undertaken post maintenance or repair activity to confirm temporary equipment has been removed and to record location of new subsea infrastructure.	PS 2.1 Temporary equipment is removed.	MC 2.1 As left survey confirms temporary equipment is removed.
	C 2.2 Monitoring and maintenance of subsea infrastructure to manage equipment integrity, scour and flowline movement within integrity envelope.	PS 2.2 Implementation of the Subsea Facilities and Pipeline Integrity Management Plan.	MC 2.2 Records demonstrate implementation of Subsea Facilities and Pipeline Integrity Management Plan.
	C 2.3 Anchoring in the Pyrenees Facility PSZ is prohibited except in emergency situations or under issuing of a specific permit.	PS 2.3 No anchoring within Pyrenees Facility PSZ, unless in an emergency or Woodside authorisation provided.	MC 2.3 Records demonstrate that any anchoring in the Pyrenees Facility PSZ, was in an emergency or approved by Woodside.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
	C 2.4 Location of subsea infrastructure, brought into the Operational Area is tracked and recorded.	PS 2.4 Location of equipment, including those made redundant by the installation of a replacement, are recorded, and updated in the inventory.	MC 2.4 Records confirm location of replacement equipment and remaining redundant equipment.
EPO 3 No adverse impact to unexpected finds of UCH ³³ without a permit. ³⁴	C 3.1 Unexpected finds of potential UCH sites/ features, including First Nations UCH, are managed in accordance with the Unexpected Finds Procedure set out in Section 7.9.	PS 3.1 In the event that a UCH site or feature is identified, implement the Unexpected Finds Procedure set out in Section 7.9.	MC 3.1 No non-compliance with the Unexpected Finds Procedure.
	C 3.2 Report any potential UCH finds to relevant stakeholders and authorities in accordance with the Unexpected Finds Procedure, <i>Underwater Cultural Heritage Act 2018</i> and the <i>Aboriginal and Torres Strait Islander Heritage Protection Act</i> .	PS 3.2 Report any finds of potential UCH in accordance with the Unexpected Finds Procedure (Section 7.9), including to: - Western Australian Museum as requested during EP consultation - Australasian Underwater Cultural Heritage database via DCCEEW.	MC 3.2 Records of potential UCH finds reported to relevant authorities and persons.
	C 3.3 Relevant vessel crew and ROV operators will be advised in an induction of the potential to encounter UCH and requirement to follow the Unexpected Finds Procedure.	PS 3.3 Relevant vessel crew and uncrewed surface vessel remote operators (including ROV operators) are made aware of the requirements of the Unexpected Finds Procedure set out in Section 7.9 through an induction.	MC 3.3 Records demonstrate vessel crew, and uncrewed surface vessel remote operators are made aware of potential to encounter UCH and requirement to follow the Unexpected Finds Procedure.

³³ *Underwater Cultural Heritage is defined as any trace of human existence that has a cultural, historical or archaeological character and is located under water, in accordance with the Underwater Cultural Heritage Act.*

³⁴ *Permit for Entry into a Protected Zone or to Impact Underwater Cultural Heritage would be acquired under the Underwater Cultural Heritage Act.*

6.7.3 Routine light emissions: light emissions from FPSO lighting, vessel operations and operational flaring

Context														
Pyrenees Facility – Section 3.11 Production processes – Section 3.13 Subsea IMMR activities – Section 3.19							Biological environment – Section 4.5				Consultation – Section 5			
Impacts evaluation summary														
Source of impact	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Light emissions from Pyrenees Facility, vessels (including IMMR) and ROVs						x		A	1 – Minor	-	-	LCS GP PJ	Tolerable	EPO 4, 5
Light emissions from Pyrenees Facility during flaring						x		A	1 – Minor	-	-			
Source of impact														
Routine light emissions include light sources that alter the ambient light conditions in an environment. The sources associated with the Petroleum Activity are operational lighting of the FPSO and support vessels and flaring from the FPSO. FPSO (operational lighting and flaring) Operational lighting on the FPSO is used to ensure a safe working environment to support 24-hour operations and to communicate the presence of the Pyrenees Venture FPSO to other marine users (i.e. navigation lights). This allows the Pyrenees Venture FPSO to meet sea and air safety safe working and navigational requirements. This lighting typically consists of bright white (i.e. metal halide, halogen, fluorescent) lights, and is not dissimilar to lighting used for other offshore activities, including fishing and shipping. As lighting is required for the safe operation of the facility it cannot reasonably be eliminated. A relatively small quantity of gas is required to be continuously flared associated with purge and pilot of the flare system and disposal of waste streams which are not recovered to the process. Intermittent flaring may occur for short periods during routine and non-routine operational activities, including depressurisation of the system and/or emergency shutdowns. Continuous flaring produces less intense light when compared to some non-routine flaring events such as emergency shutdowns and process upsets. The distance to the horizon at which components of the FPSO or support vessels are directly visible can be estimated using this formula: $\text{horizon distance} = 3.57 \times \sqrt{\text{height}}$ In this formula “horizon distance” is the distance to the horizon at sea level in kilometres, and “height” is the height above sea level of the light source in metres. Using this formula, with the top of the flare tower (the highest point of the facility) at 90 m above sea level and deck lighting at 24 m, the maximum distance to the horizon at which the flare tower and deck lighting is directly visible at sea level is approximately 34 km and 17.5 km respectively. Light emissions associated with the Dorado FPSO were modelled as part of the Dorado Offshore Project Proposal (Pendoley Environmental, 2020a) to consider both visibility and radiance, as well as worst-case flaring events. This assessment is considered a suitable and conservative surrogate for the light emissions of the Pyrenees Venture FPSO for the following reasons: • The deck height for operational lighting is similar.														

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- The flaring tower height of the Dorado FPSO (110 m) is approximately 20 m higher than Pyrenees and so has slightly more visibility than the Pyrenees flare tower.
- The receiving environment for the Pyrenees Venture FPSO has a minor elevation equivalent to that of the Dorado FPSO receiving environment.

The Dorado light assessment used satellite data of known maintenance (i.e. worst case) flaring events at existing LNG facilities to obtain a base radiance value for a flare before applying it to the model, which is considered a more reliable and conservative approach than flare gas rate.

Two scenarios were modelled for the Dorado FPSO:

- operational lighting with no flaring
- operational lighting including flaring.

The Dorado FPSO lighting design and luminaire specifications were applied to the ILLUMINA artificial light at night model (Aubé et al., 2005). The ILLUMINA model is a 3D model that predicts the extent of visible light and radiance (light received in a specific area). In this assessment, light was described in terms of radiance which describes the light received in a specific area and is provided in the units $W/m^2/sr$, where W = watts, m^2 = metres squared and sr = steradian (unit of solid angle, equal to the angle at the centre of a sphere subtended by a part of the surface equal in area to the square of the radius).

In the absence of any published or generally accepted units or scale for measuring the impact of artificial light on wildlife, moonlight was selected as a proxy (considered representative of ambient light levels marine fauna are adapted to). The light model output was converted to units of full moon equivalents in an attempt to give the radiance output some biological relevance and to aid interpretation in an environmental impact assessment context. The light emissions are considered to have reduced to ambient when radiance is less than the equivalent of 0.01 (1/100th) of one full moon.

In the non-flaring scenario for the Dorado FPSO, the model results show that radiance reduced to ambient (less than 0.01 full moon equivalent) at 17.7 km from the source. In the flaring scenario, the flare is no longer directly visible at 42.4 km, when the flare drops below the horizon. At this distance, the radiance is equivalent to 0.25 full moons. As the flare drops below the horizon, radiance declines rapidly and is no longer visible.

Given the height of the Pyrenees flare and the nature of flaring that will take place during the Petroleum Activity is similar to what was modelled for the Dorado FPSO, it is also expected that lighting from the Pyrenees Venture FPSO (flare and navigational lighting) will be visible for up to 42.4 km from the Pyrenees Venture FPSO.

Support vessel lighting

Support vessels will routinely use external lighting to navigate and conduct safe operations at night for the duration of the Petroleum Activity. Vessel lighting will also be used to communicate the vessels' presence to other marine users (i.e. navigation/warning lights). This lighting typically consists of bright white (i.e. metal halide, halogen, fluorescent) lights, and is not dissimilar to lighting used for other offshore activities, including fishing and shipping. Lighting is required for safely operating the vessels and cannot reasonably be eliminated.

Spot lighting may also be used on an as-needed basis such as during ROV deployment and retrieval. During IMMR activities, lighting is generated over short periods of time while ROVs are in use, as well as from deck lighting. Given the typical intensity of ROV lights and the attenuation of light in seawater, light from ROVs will be localised to the vicinity of the ROV and vessels.

For lighting on a support vessel ~20 m above sea level, the distance to the visible horizon is approximately 16 km. Any lighting beyond this distance is below the horizon and direct light will not be visible. To also consider radiance, the Dorado FPSO modelling of the non-flaring (operational lighting) scenario can be used as a suitable surrogate given the increased lighting associated with an FPSO and greater deck height compared to standard support vessels. The model results show that radiance reduced to ambient (less than 0.01 full moon equivalent) at 17.7 km from the source.

Impact assessment

Lighting from the FPSO and support vessels may appear from direct unshielded light sources or through skyglow. Where direct light falls upon the ocean, this area of light is referred to as light spill. Skyglow is the diffuse glow caused by light that is screened from view, but through reflection and refraction creates a glow in the atmosphere. The distance at which direct light and skyglow may be visible from the source is dependent on the lighting on the facility/vessel and environmental conditions as described above as directly visible and radiance light.

Receptors that have important habitat present within a 20 km buffer of the Operational Area were considered as having potential for interaction, based on recommendations of the National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds. The 20 km threshold provides a precautionary limit based on observed effects of sky glow on marine turtle hatchlings (15 to 18 km) and fledgling seabirds grounded in response to artificial light 15 km away (Commonwealth of Australia, 2020).

The Operational Area overlaps the following seabird and turtle BIAs:

- hawksbill turtle internesting
- flatback turtle internesting

- green turtle interesting
- loggerhead turtle interesting
- wedge-tailed shearwater breeding.

Habitat critical to the survival of the flatback turtle (nesting buffer) also overlaps the Operational Area.

Turtle and seabird receptors that have important habitat within a 20 km buffer extent around the Operational Area were considered for the impact assessment for FPSO and support vessel operational lighting, based on light emissions being visible up to 17.7 km away.

- green turtle nesting habitat critical (2.6 km and 14 km from the Operational Area)
- loggerhead turtle nesting habitat critical (2.6 km from the Operational Area)
- hawksbill turtle nesting habitat critical (14 km from the Operational Area)
- hawksbill turtle nesting BIA (19 km from the Operational Area)
- green turtle nesting BIA (18 km from the Operational Area).

Given that lighting from flaring may be visible up to 42.4 km from the FPSO, species with BIAs outside of 20 km and within 42.4 km were also identified. Although the National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds suggest that impact is unlikely beyond 20 km from the source, an assessment of these species has been included for completeness:

- fairy tern breeding (27 km from the Operational Area).

Light emissions have the potential to disrupt ecological processes that rely on natural light for visual cues. Light emissions can affect fauna in two main ways:

- Behaviour – many organisms are adapted to natural levels of lighting and the natural changes associated with the day and night cycle as well as the phase of the moon. Artificial lighting has the potential to create a constant level of light at night that can override these natural levels and cycles.
- Orientation – species such as marine turtles and birds may use lighting from natural sources to orient themselves in a certain direction at night. In instances where an artificial light source is brighter than a natural source, the artificial light may override natural cues, leading to disorientation.

The majority of fauna expected within the Operational Area is predominantly pelagic fish and zooplankton, with a low abundance of transient species primarily associated with the BIAs listed above.

Seabirds

High levels of marine lighting can attract and disorient seabird species resulting in behavioural changes (e.g. circling light sources or disrupted foraging), injury or mortality near the light source (e.g. Longcore & Rich, 2004; 2006; Gaston et al., 2014). All seabird species active at night are vulnerable to artificial light as it can disrupt their ability to orient towards the sea (Commonwealth of Australia, 2020). The potential for bird interactions is dependent upon their ability to perceive the dominant wavelengths in the spectral composition of a light source (Pendoley Environmental, 2023). Species with a nocturnal component to their behaviour and life history, such as procellariiforms (including wedge-tailed shearwaters), are at greater risk of negative impacts from artificial light sources at night. The bulk of the literature concerning impacts of lighting upon procellariiforms relates to the synchronised mass exodus of fledgling seabirds from their nesting sites (Deppe et al., 2017; Raine et al., 2007; Rodriguez et al., 2017a; 2017b), with fewer investigating the impacts of light at sea. Diurnal seabird species, such as terns, noddies and boobies, in contrast to procellariiforms, are less vulnerable to impacts resulting from nocturnal behaviours. However, the presence of lit facilities can result in localised alteration of foraging behaviours such as extended foraging durations.

Seabirds and shorebirds interacting with bright light sources could also alter migratory pathways and/or nocturnal roosting behaviours (Pendoley Environmental, 2023). The Operational Area may be occasionally visited by seabirds and migratory shorebirds; however, there is no emergent land that could be used for roosting or nesting habitat within the Operational Area. In a study of offshore oil platforms in the North Sea, Poot et al. (2008) observed that migrating seabirds can be attracted to the lights and flares of offshore oil platforms, particularly on cloudy nights and in between the hours of midnight and dawn. Migratory shorebirds travelling the East Asian-Australasian Flyway may transit through the Operational Area in the vicinity of the Pyrenees Venture FPSO and vessels enroute to staging areas, before moving onto the mainland south in the spring or Indonesia in the north in the autumn. It is possible that many of the birds on migration may also take advantage of ships and offshore facilities in the area to rest. Migrating birds in the region are at, or near, the end of their migration (or staging area), and if attracted will not be facing long-distance journeys directly upon leaving the facility. Although the migratory diversion is not expected to impact negatively on the birds, if there are identified maintenance, safety and health risks associated with guano from the birds it may be necessary to deter them from resting on the FPSO. No lasting effect is anticipated from seabirds attracted to the light and diverted from their migratory pathway.

The life stages most vulnerable for seabirds and migratory shorebirds are nesting adults or fledglings (Marangoni et al., 2022). Adult wedge-tailed shearwaters are absent from their breeding colonies during the interbreeding period and return from their tropical Indian Ocean over-wintering grounds from late June onwards to re-excavate their burrows. Adult shearwaters are vulnerable to artificial lighting in the breeding cycle, when returning to and leaving the nesting colony to maintain nesting sites or forage. The breeding period for the wedge-tailed shearwater is from August to March, with peak incubation and chick rearing during November (Cannel et al., 2019). During this period, adults were

observed taking a combination of short (one to four days) or long (six to 30 days) foraging trips from the Muiron Islands towards the north-west (Cannel et al., 2019). During the breeding period, foraging adult wedge-tailed shearwaters were observed travelling up to around 1,000 km from the breeding colony (Cannell et al., 2019). Foraging wedge-tailed shearwaters may be attracted to sources of light emissions to feed on fish drawn to the light; however, the species reportedly feeds predominantly during the day (Catry et al., 2009). Artificial light can also impact behaviour and adult nest attendance, or confuse shearwater species, resulting in injury or mortality as a result of birds colliding with structures (Cianchetti-Benedetti et al., 2018; Rodriguez et al., 2017a; 2017b).

Fledglings of burrow-nesting seabirds, and to a lesser extent adults, are attracted to and then grounded (i.e. forced to land) by lights when they fly at night with the most affected seabirds being petrels and shearwaters (Procellariiformes) (Rodriguez et al., 2017). Shearwater fledglings are predominantly impacted by onshore lighting sources, which can override sea finding cues and attract fledglings further inland, preventing them from reaching the sea (Mitkus et al., 2016; Telfer et al., 1987). Fledglings leave the nesting colony for the sea at night and the main fledgling period for shearwaters in WA is reportedly April (Advisian, 2022). Reported mass groundings and mortalities are associated with formerly uninhabited islands and the risk of light pollution from tourism and urban sprawl, and generally occur during adverse weather conditions. This is probably because of the potential for clouds, mist and rain to increase light pollution levels (Kyba et al., 2011), however recent research is revealing added complexity including moon phase, wind strength and direction (see Commonwealth of Australia, 2020b for review).

Wedge-tailed shearwaters are highly synchronous in timing of breeding; all eggs within a colony are laid within a ten-day period. Due to the high synchronicity in egg laying, exodus of fledglings from burrows is also highly synchronised, restricted to the first two weeks of April (Nicholson, 2002). Only one record of a shearwater species interacting with an offshore facility has been recorded. This occurred in December 2016, and therefore is assumed to be an adult rather than a fledgling.

The potential extent of lighting emissions from the Operational Area overlaps a foraging and breeding BIA for the wedge-tailed shearwater and the Operational Area is also located approximately 19 km from the Muiron Islands, which is a significant breeding site for this species (Cannel et al., 2019). While the Petroleum Activity will occur during the wedge-tailed shearwater breeding period, the potential extent of lighting emissions does not represent a significant portion of the known wider breeding and foraging area for wedge-tailed shearwaters. Artificial lighting offshore is not considered to be sufficient to attract significant numbers of individuals to the Pyrenees Venture FPSO or support vessels. Grounding of fledglings during the synchronised exodus in April may occur as a result of onshore lighting in proximity of their burrows. There is, however, no evidence (anecdotal or otherwise) that lighting offshore contributes to groundings or displacement of fledglings onshore, or on facilities or vessels offshore. Impacts to wedge-tailed shearwaters from a change in ambient light offshore are therefore considered to be limited to negligible behavioural disturbance to isolated transient individuals, and are not significant to the population's presence in important breeding and foraging habitat.

The potential extent of lighting emissions from the Operational Area overlaps a foraging and breeding BIA for the fairy tern located on the northern end of the North West Cape, with the Operational Area approximately 27 km from nesting beaches (outside the 20 km threshold for impact assessment recommended by the National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds). The WA breeding population (approximately 5,000 to 6,000 mature individuals) is dispersed over approximately 2,500 km of coastline (Greenwell, 2021). Within WA, the subspecies comprises a sedentary Pilbara population and a partially migratory population extending from Exmouth to Point Malcolm. The partially migratory population is widely distributed and winters primarily around the northern Houtman Abrolhos Islands (Greenwell, 2021). These birds migrate to breeding areas as far south as Point Malcolm on the eastern south coast and as far north as the Ningaloo coast, while others remain within the Houtman Abrolhos Archipelago (Greenwell, 2021). Within the North-west region, breeding occurs in small colonies between June and September on offshore islands, including Simpson Island, Barrow Island, the Montebello Islands, the Lowendal Islands, Thevenard Island, Serrurier Island, the islands in the Dampier Archipelago, Maryanne Shoals and Egret Island (Dunlop, 2018; Johnstone et al., 2013; Surman pers. obs.). Colonies tend to occupy areas rather than fixed sites, and nest sites can be abandoned after one or more years, even if they have been successful (Saunders & de Rebeira, 1985). While information regarding foraging ecology of this species within the North-west region is lacking, the Australian fairy tern has been studied in South Australia. Here, species typically forages in inshore waters and has been reported to rarely travel beyond 2 km during the breeding season in South Australia (Paton & Rogers, 2009). The potential extent of lighting emissions does not represent a significant portion of the known wider breeding and foraging area for fairy terns. Terns are a diurnal seabird species, which in contrast to procellariiforms, are less vulnerable to impacts resulting from nocturnal behaviours (Pendoley Environmental, 2023).

Impacts to Fairy Terns from a change in ambient light are therefore considered to be limited to negligible behavioural disturbance to isolated transient individuals, not significant to the population's presence in important breeding and foraging habitat. The National Recovery Plan for the Australian Fairy Tern (*Sternula nereis nereis*) (Commonwealth of Australia, 2020a) does not list artificial light as a threat.

The Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2020b) lists light pollution as a threat with minor consequence (individuals affected but no population level impacts expected).

On this basis the potential impact from light emissions from the Petroleum Activity on seabirds, including for constant routine low level flaring and intermittent short term more intense flaring is expected to be minor and temporary.

Marine turtles

Light pollution reaching turtle nesting beaches is widely considered detrimental owing to its ability to alter important nocturnal activities, including choice of nesting sites and orientation/navigation to the sea by hatchlings (Witherington & Martin, 2003). The most significant risk posed to marine turtles from artificial lighting is the potential disorientation of hatchlings following their emergence from nests, although the behaviour of breeding adult turtles can also be affected (Rich & Longcore, 2006, in EPA, 2010). The relevant recovery plan considers light pollution a threat to hatchling orientation, survivability/predation, and sea-finding behaviours and can disrupt nesting behaviours of mature females.

Given the nature of the light emitted from the Pyrenees Venture FPSO and vessels, its direction and distance, the potential for hatchling turtles to become disoriented by, or be exposed to increased predation risk due to, artificial lighting associated with the Petroleum Activity is considered to be limited to possible short-term impacts to isolated individual hatchlings offshore, with no lasting effect to the species. For adult and pelagic juveniles, light emissions from the facility and vessels are unlikely to result in displacement of, or behavioural changes to individuals. This is described in further detail below for hatchlings and adult turtles, respectively.

Hatchlings

The nearest potential nesting beaches in relation to the Pyrenees Venture FPSO are the Muiron Islands (19 km south-east), and the North West Cape (27 km south-west). Lighting from the tip of the flare tower onboard the Pyrenees Venture FPSO may be visible from these areas.

Turtle hatchlings emerge from the nest and orient towards the sea. Hatchlings generally show a preference of moving towards horizons which are low and bright, and moving away from horizons that are dark and elevated, using these cues to navigate towards the shoreline (Limpus & Kamrowski, 2013). After entering the water, hatchlings use a combination of cues (wave direction and currents) to orient and travel into offshore waters. Impacts to the sea-finding behaviour of hatchlings are more common for light sources behind a beach, as lighting offshore will orient emerging hatchlings towards the sea.

Artificial light at close distances can also impact hatchling dispersal once they are in the water. Light spill may 'entrap' hatchling swimming behaviour, reducing the success of their seaward dispersion and potentially increasing their exposure to predators via silhouetting (Salmon et al., 1992). However, modelling of light emissions from larger vessels in the Dampier Archipelago (e.g. trailer suction hopper dredge and pipelay vessel) indicated that the actual zone within which behavioural responses in hatchlings could occur is <2 km (Pendoley, 2020). Given that hatchlings distribution is likely to be governed by currents at this early life history stage, any hatchlings dispersed by water currents to within 2 km of vessels risking entrapment by lighting would be very limited.

Sky glow, particularly from flaring is also unlikely to cause behavioural impacts as the light source is located directly offshore in the same direction that emerging hatchlings would be heading in during normal sea-finding behaviour, meaning that no significant disorientation would occur. Studies reported by Witherington (1992) on hatchling orientation relative to spectrally controlled light sources indicated that most disruptive wavelengths were in the range of 300 to 500 nm. In contrast, the light emitted from natural gas flares has peak spectral intensity between 750 to 900 nm (Western Australian Petroleum, 1995) and so is highly unlikely to cause disturbance to nesting or hatching turtles. Pendoley (2000) showed that the intensity of two flares (a tower flare and a pit flare) at Thevenard Island, WA, peaked at between 650 and 700 nm. This result is similar to three other flares measured in Australia (Pendoley Environmental, unpublished data). Pendoley (2000) found no significant spectral difference between the two flare types, or when varying flow rates.

The anticipated light spill on nesting beaches where hatchlings emerge from nests is considered to be insignificant given: 1) vessel lighting is not visible at nesting beaches when within the Operational Area; and 2) the distance to and associated exponential decrease of any visible light from flaring.

Adults

Artificial lighting may affect the location that turtles emerge to the beach, the success of nest construction, whether nesting is abandoned, and even the seaward return of adults (Salmon et al., 1995a; 1995b; Salmon & Witherington, 1995). However, such lighting impacts typically arise from residential and industrial development overlapping the coastline, rather than offshore from nesting beaches.

The interesting period is the duration between each successive clutch during that season. The females remain close to rookeries or beaches, and therefore designated and defined buffer zones have been gazetted immediately seaward from nesting beaches. There are internesting buffers within 20 km of the Operational Area. Marine turtles do not use light cues to guide internesting behaviours (Pendoley Environmental, 2020). Further, Pendoley Environmental (2000) found no evidence, published or anecdotal, to suggest that foraging or migrating turtles are impacted by light from offshore facilities and vessels. As such, light emissions from the facility and vessels are unlikely to result in displacement of, or behavioural changes to individuals in these life stages (Pendoley Environmental, 2020).

It is acknowledged that the Operational Area overlaps the outer portion of a habitat critical for the survival for flatback turtles, as defined in the Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017). Given the water depth and preferred foraging habitat, this species is expected to be present in very low numbers only. Light is not thought to be an important cue for individuals that may move through the offshore area around the Pyrenees Venture FPSO. Adult turtles migrating through the Operational Area may temporarily alter their normal behaviour if attracted to the light spill from the Pyrenees Venture FPSO. However, since water has a higher albedo than land, navigation is expected to be influenced by wave motion, currents and earth magnetic field, rather

than artificial light. The probability of any light from the FPSO being detected by turtles when in the water and this light having any impact is negligible.

For nesting females, the presence of lighting among other factors is a key factor for site selection when laying clutches (Windle et al., 2018), preferring more dimly lit areas. The distance from the Pyrenees Venture FPSO to the Muiron Island and Ningaloo coast is 19 km and 27 km, respectively. Nesting turtles on the beaches are potentially exposed to lighting from the flare which may be directly visible on the horizon. The WA Environmental Protection Authority (EPA) conservatively estimates there is only a small influence on marine turtles if the light source is within 1.5 km of the nesting beach (EPA, 2010). As such, flaring directly visible on the horizon is not considered sufficient to induce changes to nesting behaviour.

Light emissions generated by IMMR activities within the Operational Area does not have the potential to be directly visible at nesting beaches, the closest of which is 19 km away from the perimeter of the Operational Area (Muiron Islands). IMMR activities are short-term and temporary. Given the distance to potential nesting locations, vessel lighting intensity and temporary duration of lighting, it is considered unlikely that IMMR activities will have any impact to turtle species.

Fish

Lighting from the presence of a vessel may result in the localised aggregation of fish below the vessel. These aggregations of fish are considered localised and temporary and any long-term changes to fish species composition or abundance is considered highly unlikely. This localised increase in fish extends to those comprising the whale shark's diet. However, given that a large proportion of the diet comprises krill and other planktonic larvae, it is unlikely that a light source will lead to a significant increase in whale shark abundance in the vicinity of the vessels. Similarly, any localised impacts to marine fish are not expected to impact on any commercial fishers in the area. No significant cumulative impacts over the life of the Petroleum Activity or in relation to other operations and activities in the region (e.g. Ngujima-Yin, Ningaloo Vision) are expected.

Values and sensitivities

The following values and sensitivities of Australian Marine Parks, the Ningaloo Coast World Heritage property and the North West Marine Park Management Plan as relevant to light emissions, are presented below.

The Ningaloo Marine Park stretches approximately 300 km along the west coast of the Cape Range Peninsula. This Marine Park covers an area of 2,435 km² and a water depth range of 30 m to more than 500 m. This Marine Park provides connectivity between deeper offshore waters of the shelf break and coastal waters. It includes some of the most diverse continental slope habitats in Australia, including the continental slope area between North West Cape and the Montebello Trough. This Marine Park supports a range of species listed under the EPBC Act and supports breeding and/or foraging habitat for seabirds, interesting habitat for marine turtles, and foraging habitat for whale sharks.

The Ningaloo Coast World Heritage property is approximately 710,000 ha and lies within the Ningaloo AMP. Universal values of the Ningaloo Coast World Heritage property include high marine species diversity and abundance; in particular, Ningaloo Reef supports both tropical and temperate marine reptiles.

The Gascoyne Marine Park is located ~20 km off the west coast of the Cape Range Peninsula, adjacent to the Ningaloo Marine Park and extends to the limit of Australia's exclusive economic zone. This Marine Park covers an area of 81,766 km² and water depth varies between 15 m and 6,000 m. The park is characterised by diverse and endemic fish communities and supports a range of species listed under the EPBC Act and their habitat. This includes breeding habitat for seabirds and interesting habitat for marine turtles.

The North-west Marine Parks Management Plan includes the following values relevant to impacts from light emissions:

- interesting, foraging, mating and nesting for marine turtle (flatback and green turtles)
- whale shark foraging BIA
- wedge-tailed shearwater breeding BIA
- diverse fish communities.

Seabirds, fish and reptiles present in these areas or listed as values within management plans may be impacted by light emissions; refer to the section above for an assessment of the potential impacts of artificial light on marine fauna. Given the distance from the Operational Area to these gazetted areas, light from the FPSO flare and support vessels is not considered to result in impacts other than minor.

Cumulative assessment

Woodside have considered the potential light emitting activities that could overlap with the Petroleum Activity temporally and spatially. This includes assessing the operation of supply/IMMR vessels, FPSO facility lighting and flaring occurring simultaneously.

This EP also acknowledges the proximity of Woodside's Ngujima-Yin, Macedon and Stybarrow operations, as well as Santos' Ningaloo Vision operations. Some of these (Ngujima-Yin and Ningaloo Vision operations) involve continuous light emissions from the associated FPSOs that are within 10 km of the Pyrenees Operational Area, whilst others involve temporary vessel activity only (Macedon and Stybarrow). Further, there is an overlap between the Pyrenees Operational Area and the Macedon Operational Area in proximity to the Macedon-6 well, however, it is not expected that any more than two supply/IMMR vessels would be present in the Pyrenees Operational Area with one IMMR

vessel used to complete tasks required for both fields sequentially. Only for non-routine repair or replacement activities would two IMMR vessels be present in the Operational Area at the same time for approximately two weeks.

The maximum distance of direct visibility for vessel lighting 17.7 km will not increase by the presence of multiple vessels. However, presence of additional vessels will make a small incremental contribution to the overall skyglow visible on the horizon. Given the distance from the perimeter of the Operational Area to the nearest nesting beaches (~19 km to Muiron Islands) and the short duration of IMMR vessel activities, it is unlikely that cumulative impact from vessel lighting associated with petroleum activities in the region would occur.

Artificial light monitoring conducted for the proposed Ningaloo Lighthouse Resort Development as well as direct observations from Hunters Beach in Cape Range National Park found that flaring from the three FPSOs currently operating off North West Cape (Ngujima-Yin, Pyrenees and Ningaloo Vision) may be visible at turtle nesting beaches on the tip of North West Cape (NOPSEMA correspondence and Pendoley Environmental, 2021). Flaring may also be visible at nesting beaches at the Muiron Islands, given its closer proximity to the Pyrenees Venture FPSO than the North West Cape.

For turtle hatchlings the lighting impact assessment for the Ningaloo Lighthouse Resort Development concluded that *“Sea finding by turtle hatchlings emerging from regional nesting beaches was consistent across the monitored beaches with most hatchling fans successfully orienting seaward and appeared unaffected by the current levels of visible regional skyglow.”* (Pendoley Environmental, 2021). Any cumulative impacts to marine turtle hatchlings from artificial light will therefore be limited to possible minor behavioural impacts to isolated individuals offshore, that are temporary in nature. For nesting turtles, the WA EPA conservatively estimates there is only a light influence if the light source is within 1.5 km of the nesting beach (EPA, 2010). As such, flaring is not considered sufficient to prevent significant biological behaviours to continue.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁵	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
None identified.				
Good practice				
Implement Seabird Management Plan on the Pyrenees Venture FPSO.	F: Yes. CS: Minimal.	Potential for slight reduction in the likelihood of seabird attraction to vessels and facility resulting in a reduced likelihood of bird strikes.	Potential benefits outweigh cost/sacrifice.	Yes C 4.1
Routine lighting will be limited to the minimum required for navigational and safety requirements.	F: Yes. Lighting is typically appropriate for navigation and safety. CS: Minor.	Given the potential impacts to turtles during this Petroleum Activity is insignificant, implementation of this control would not result in a reduction in consequence.	While the control does not result in significant reduction of impacts, it is good practice and not at significant cost.	Yes C 4.2
Good practice				
None identified.				

³⁵ Qualitative measure

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁵	Benefit in impact/risk reduction	Proportionality	Control adopted
Professional judgement – Eliminate				
No external lighting during the Petroleum Activity.	F: No. Light management is consistent with that required to provide a safe working environment onboard the FPSO and support vessels. CS: Not considered, control not feasible.	Not considered, control not feasible.	Not considered, control not feasible.	No
Do not flare.	F: No. Flaring is required for the safe operation of the Pyrenees Venture FPSO. CS: Not considered, control not feasible.	Not considered, control not feasible.	Not considered, control not feasible.	No
When gas production exceeds fuel gas demand, surplus gas will be re-injected during routine operations and therefore reducing flaring of surplus gas during routine production operations.	F: Yes. CS: Minor.	Given the potential impacts to turtles during this Petroleum Activity, implementation of this control would not result in a reduction in consequence.	While the control does not result in significant reduction of impacts, it is good practice and not at significant cost.	Yes C 4.3
Professional judgement – Substitute				
Substitute external lighting with light sources designed to minimise impacts to seabirds, shorebirds and marine turtles: - use flashing/intermittent lights instead of fixed beam - use motion sensors to turn lights on only when needed - use luminaires with spectral content appropriate for the species present - avoid high intensity light of any colour.	F: Yes. Replacement of external lighting with lighting appropriate for turtles and seabirds is technically feasible, although is not considered to be practicable. CS: Significant cost sacrifice. The retrofitting of all external lighting on the FPSO, etc, would result in considerable cost and time expenditure. Considerable logistical effort to source sufficient inventory of the range of light types onboard the FPSO.	Given the potential impacts to turtles, nesting seabirds and fledglings during this activity are insignificant, implementation of this control would not result in a reduction in consequence. Potential for minor reduction in impact to individual foraging seabirds that may transit the Operational Area, as outlined in the National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds.	Grossly disproportionate. Implementation of the control requires considerable cost sacrifice for minimal and provides minimal environmental benefit. The cost/sacrifice outweighs the benefit gained.	No
Professional judgement – Engineered solution				
None identified.				

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁵	Benefit in impact/risk reduction	Proportionality	Control adopted
ALARP statement: On the basis of the environmental impact assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the potential impacts from routine light emissions from the Pyrenees Facility and Petroleum Activity to be ALARP, as no reasonable additional/ alternative controls were identified that would further reduce the impacts without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact assessment has determined that, in its current state, operational light emissions from the Pyrenees Facility and Petroleum Activity represent a minor disturbance to fauna within the Operational Area. Further opportunities to reduce the impacts have been investigated above. The potential impacts are consistent with good oil-field practice/industry best practice and are considered to be broadly acceptable in its current state. Therefore, Woodside considers standard operations appropriate to manage the impacts of light emissions to a level that is tolerable and demonstrate that the EPOs are met.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
EPO 4 No impacts to marine fauna greater than that caused by minimum required light emissions for safe work and navigation. EPO 5 No displacement of marine turtles from habitat critical during nesting and interesting periods and marine turtles' biologically important behaviour can continue in biologically important areas.	C 4.1	Implement a Seabird Management Plan. PS 4.1 Implement a Seabird Management Plan on the Pyrenees Venture FPSO that includes: • standardisation and maintenance of record keeping and reporting of seabird interactions • procedures on seabird intervention, care and management • regulatory reporting requirements for seabirds (unintentional death of or injury to seabirds that constitute MNES) • a scalable adaptive management process, should negative light impacts to nocturnal seabirds be detected.	MC 4.1
	C 4.2	Lighting will be limited to the minimum required for navigational and safety requirements, except for emergency events. PS 4.2 Lighting will be limited to that required for safe work/navigation.	MC 4.2

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
	C 4.3 When gas production exceeds fuel gas demand, surplus gas will be re-injected during routine operations and therefore reducing flaring of surplus gas during routine production operations.	PS 4.3 During routine operations, when fuel gas demand exceeds gas production, surplus gas will be re-injected.	MC 4.3 Records show maintenance of gas re-injection equipment is conducted in accordance with procedures and maintenance system requirements.

6.7.4 Routine acoustic emissions: generation of noise during routine operations

Context														
Subsea infrastructure and layout description – Section 3.5 Pyrenees Facility – Section 3.11 Support vessel operations – Section 3.17 Helicopter operations – Section 3.18 Subsea IMMR activities – Section 3.19				Biological environment – Section 4.5 Protected species – Section 4.6				Consultation – Section 5						
Impacts evaluation summary														
Source of impact	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Noise generated within the Operational Area from: - Pyrenees Venture FPSO - offtake tankers - IMMR vessels - support vessels - subsea infrastructure - IMMR activities - helicopters						x		A	1 – Minor	-	-	LCS	Tolerable	EPO 6, 7
Source of impact														
The Pyrenees Venture FPSO operations including subsea infrastructure, offtake tankers, IMMR vessels, support vessels, IMMR activities and helicopter operations all generate noise both in the air and/or underwater. For vessels equipped with DP systems, the primary source of underwater noise typically originates from thrusters operating to maintain position with cavitation being the main contributor. These noise emissions contribute to, and at times may exceed ambient noise levels, which range from around 90 dB re 1 µPa (root square mean sound pressure level [rms SPL]) under very calm, low wind conditions, to 120 dB re 1µPa under windy conditions (McCauley, 2005). FPSO The Pyrenees Venture FPSO does not have a DP system and is instead equipped with a single thruster which is in operation for approximately six hours per day. During these periods, the thruster is the dominant source of underwater noise emissions from the FPSO. Other sources of noise include onboard machinery, production equipment, including that associated with flaring, as well as subsea infrastructure. A source level of 173.9 dB re 1 µPa²m² was used in the modelling study to inform the impact assessment (Li et al., 2024), representing underwater noise emissions mainly associated with the vessel's truster operation. While this modelled value provides a reasonable basis for impact assessment particularly during the period when the FPSO's thruster is not in operation, empirical measurements indicate that actual source levels may be slightly higher. Specifically, measurements show that the Pyrenees Venture FPSO generates broadband sound pressure levels of approximately 178 dB re 1 µPa²m², suggesting that the modelled value may underestimate true noise emissions. This reinforces the need to adopt a conservative approach when assessing maximum noise propagation distances (see further below). In addition to vessel noise, the HP and LP flare systems generate noise from combustion. Noise from flaring is emitted at the top of the flare tower, which is approximately 90 m above sea level. Noise from the tip of the flare is not constrained and propagates spherically in all directions. Received levels from airborne propagation modelling were used to ascertain the underwater received levels during flaring activities for the WA-34-L Pyxis Drilling and Subsea Installation EP. Only a very small fraction of the acoustic energy produced from flaring transmits through the air/water														

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

boundary due to the surface of water acting as a reflective plane, causing most acoustic energy to reflect back into the air. While received sound pressure level during flaring is estimated to be 136 dB re 1 μ Pa at 1 m below the sea surface, it is estimated to attenuate to ambient levels within a very short distance (e.g. a few metres) and therefore is not considered further in the impact assessment.

Offtake tankers and IMMR vessels

Production rates from the Pyrenees Venture FPSO have declined over time, with current offtake operations reduced to approximately eight campaigns per year. Each campaign involves a tanker entering the Operational Area and mooring alongside the FPSO for approximately 24 hours to transfer cargo. During approach and departure, the offtake tanker may use its thrusters for dynamic positioning, typically for up to two hours in each phase to maintain safe vessel control.

Similarly, IMMR activities may be supported by DP-operated vessels such as the Fugro Etive, which has an installed thruster capacity of 7,040 kW and has been measured to produce mean broadband source levels of approximately 187.6 dB re 1 μ Pa²m². (Li et al., 2024).

While the specific vessel type and operational profile differ between offtake tankers and IMMR vessels, both operate under similar DP conditions in close proximity to offshore infrastructure and rely on comparable thruster systems for station-keeping. As such, a vessel like the Fugro Etive provides a reasonable acoustic analogue for assessing underwater noise emissions from offtake operations.

Although the Pyrenees Operational Area overlaps with the Macedon Operational Area near the Macedon-6 well, it is not anticipated that more than one IMMR vessel will be present at any given time. A single vessel would likely complete its tasks sequentially across both fields, reducing the likelihood of cumulative noise exposure from multiple DP sources operating concurrently.

Support vessels

Support vessels are used for transporting goods and equipment to and from the FPSO and for supporting offtake.

The Siem Thiima is representative of support vessels used at the Pyrenees Facility, namely the Go Provider (refer to Section 3.17.1). The Siem Thiima has an installed thruster power of 7,230 kW which is slightly higher than the Go Provider's 6,550 kW. Based on modelling by Li et al. (2024), vessels of this type using DP systems generate mean broadband sound power levels of approximately 189 dB re 1 μ Pa²m².

During offtake and resupply activities, the DP-enabled support vessel is the dominant underwater noise source, exceeding that of the FPSO and offtake tanker (both of which do not use thrusters for the majority of time they are present in the Operational Area and generate noise below ~181 dB re 1 μ Pa²m²).

Subsea infrastructure

Subsea infrastructure, primarily wellhead choke valves and flowlines, will generate continuous underwater noise. These are expected to generate noise well within the extent of noise emissions that have been modelled for vessel operations.

JASCO Applied Sciences performed a modelling study of underwater sound levels associated with noise from Woodside's seabed wells along the NWS about 25 to 40 km off the North West Cape, directly adjacent to the Macedon Operational Area (Li, 2024). A broadband source level of 161.5 dB re 1 μ Pa²m² for noise from wellheads was utilised based on the proposed Browse to North West Shelf Project 2022 (Woodside, 2022).

The wellhead noise was modelled at two locations: one at site of Ngujima-Yin FPSO (15 km from Macedon) in water depth of 316 m, and at the Pyrenees Venture FPSO location (4 km from Macedon) in 196 m water depth.

For either location, the maximum distances from the noise source to where the marine mammal behavioural response criterion of 120 dB re 1 μ Pa was not exceeded was predicted to be less than 200 m. The noise is not predicted to ensonify the entire water column at or above 120 dB re 1 μ Pa, extending upwards to reach a depth of at least approximately 70 m below the water surface.

Based on the work of McCauley (2002) noise produced along a flowline is similar to that described for wellheads, with the radiated noise field falling to ambient levels within a hundred metres of the flowline.

IMMR activities (impulsive noise sources)

Noise from IMMR activities is for discrete work packages and will typically be intermittent and of short duration, with routine activities occurring approximately one week per year.

During IMMR activities, ROVs, AUVs, SSSs and/or MBESs may be deployed. The noise generated by these sources will typically be of considerably lower intensity than vessel noise, or, in the case of SSS, predominantly at frequencies (>180 kHz) that are outside the hearing thresholds of cetaceans and well above the hearing level of other mammals and fish (Department of Energy and Climate Change (DECC), 2011).

SSS devices operate at frequencies similar to those used in commercial fish-finding equipment, typically transmitting high frequency sound pulses typically between 100 and 500 kHz with higher frequencies providing greater imaging resolution (DECC, 2011). SSS used for imaging subsea infrastructure is highly directional and operates at frequencies that attenuate rapidly in the water column, limiting propagation to short distances.

MBESs are another form of sonar that typically operate at frequencies of 200 to 400 kHz for high resolution surveys in shallower waters. These frequencies fall outside the hearing range of most marine mammals and fish (DECC, 2011).

Given the short duration and infrequent use of these devices, as well as the rapid attenuation and intermittent nature

of high frequency sonar signals, potential effects on marine fauna are expected to reduce rapidly with distance from the source and are unlikely to cause significant impacts to any marine populations.

As overall sound levels are governed by the dominant (noisiest) source rather than being strictly additive, and as all such sonar activities require vessel support, their contribution to total underwater noise emissions during IMMR activities will be minimal compared to that generated by vessel operations.

A summary of all primary underwater noise sources associated with the Petroleum Activity are provided in Table 6-3.

Table 6-3: Summary of noise sources associated with the Petroleum Activity

Noise source	Estimated mean source level (dB re 1 $\mu\text{Pa}^2\text{m}^2$)	Frequency range (kHz)
Continuous noise		
Pyrenees Venture FPSO	178 $\pm$ 2	Broadband
Offtake tanker or IMMR vessel using DP	187.6	Broadband
Support vessel using DP	189	Broadband
Subsea infrastructure (Wellhead/choke valve)	161.5	Broadband
Impulsive noise		
Multibeam echo sounder	214	200-300
Side scan sonar	226	120 to 410
Sub-bottom profiler (chirp)	205	1 to 12
Sub-bottom profiler (pinger)	214	2 to 12
Sub-bottom profiler (boomer)	212	0.5 to 5

Helicopters

Helicopter engines and rotor blades are recognised as a source of noise emissions. Activities relevant to the Operational Area will relate to the landing and take-off of helicopters on the Pyrenees Venture FPSO and potentially on support vessels. During these critical stages of helicopter operations, safety is the highest priority. Helicopter noise is emitted to the atmosphere during routine helicopter flights. Noise levels for typical helicopters used in offshore operations (Eurocopter Super Puma AS332) at a 150 m separation distance has been measured at a maximum of 90.6 dB re 1 μPa (BMT Asia Pacific, 2005). Helicopter flights are at their lowest (i.e. closest point to the sea surface) during periods of take-off and landing from helidecks, which constitutes a relatively short phase of routine flight operations.

Water has a very high acoustic impedance contrast compared to air, and the sea surface is a strong reflector of noise energy (i.e. very little noise energy generated above the sea surface crosses into and propagates below the sea surface (and vice versa). The angle at which the sound path meets the surface influences the transmission of noise energy from the atmosphere through the sea surface, angles greater than 13° from vertical being almost entirely reflected (Richardson et al., 1995). Helicopter noise it is estimated to attenuate to ambient levels within a very short distance (e.g. metres) and therefore is not considered further in the impact assessment.

Impact assessment

Water depths in the Operational Area range from approximately 190 m to 215 m. The fauna present is predominantly pelagic species of fish, with migratory species such as turtles, birds, whale sharks and cetaceans as well as seabirds present in the area seasonally. These fauna species may include those associated with Traditional Custodians values.

Noise interference is a key threat to a number of migratory and threatened cetaceans and marine turtles identified as potentially occurring within the Operational Area. Relevant actions included in recovery plans for these species are outlined in Section 6.9.

Potential impacts of noise

Elevated underwater noise can affect marine fauna in three main ways (Richardson et al., 1995; Simmonds et al., 2004):

- by causing direct physical effects on hearing or other organs; hearing loss may be temporary (temporary threshold shift (TTS) referred to as auditory fatigue), or permanent threshold shift (PTS) (injury)

- by masking or interfering with other biologically important sounds (including vocal communication, echolocation, signals and sounds produced by predators or prey)
- through disturbance leading to behavioural changes or displacement from important areas (i.e. BIAs); the occurrence and intensity of disturbance is highly variable and depends on a range of factors relating to the animal and situation.

The marine fauna considered was based on a review of receptors that may be impacted by underwater sound. These were marine mammals, turtles and fish.

Conservation management plans and conservation advice for sea turtles of Australia and the southern right, pygmy blue, sei and fin whales list noise interference as a threat to the survival of the species.

Impact thresholds

To inform the impact assessment, the impact thresholds provided in this section were considered in relation to the credible sources of acoustic emissions.

Marine mammals

Marine mammals and especially cetaceans rely on sound for important life functions including individual recognition, socialising, detecting predators and prey, navigation and reproduction (Weilgart, 2007; Erbe et al., 2015; Erbe et al., 2018). Underwater noise can affect marine mammals in various ways including interfering with communication (masking), behavioural changes, a shift in the hearing threshold (PTS and TTS), physical damage and stress (Erbe, 2012; Rolland et al., 2012). There is little information available regarding call masking in whales (Richardson et al., 1995), although it has been suggested that an observed lengthening of calls in response to low-frequency noise in humpback whales and orcas may be a response to auditory masking (Fristrup et al., 2003; Foote et al., 2004).

The noise thresholds above which a behavioural response, TTS and PTS for cetaceans could occur are presented in Table 6-4. These thresholds have been adopted by the US National Oceanic and Atmospheric Administration (NOAA) (US National Marine Fisheries Service (NMFS), 2014; 2018; Southall et al., 2019; NOAA, 2019). In October 2024, the NMFS issued Technical Memorandum NMFS-OPR-71, which was an update to Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (V 3.0). The memo contains updated underwater and in-air criteria for onset of auditory injury and TTS for some cetacean hearing groups relevant to the noise modelling used in this EP. These updates, which do not apply to behavioural response thresholds, are shown in Table 6-4. Specifically, the update included slightly increased PTS and TTS thresholds for high frequency (HF) cetaceans exposed to impulsive and continuous noise (non-impulsive). For low frequency cetaceans, TTS and PTS thresholds are unchanged (impulsive noise) or slightly reduced (continuous noise).

Table 6-4: Impact thresholds for low and high frequency cetaceans for impulsive and continuous noise

Hearing group	Impulsive			Continuous		
	PTS onset thresholds: <i>SEL_{24h}</i> (dB re 1 $\mu\text{Pa}^2\cdot\text{s}$)	TTS onset thresholds: <i>SEL_{24h}</i> (dB re 1 $\mu\text{Pa}^2\cdot\text{s}$)	Behavioural response (dB re 1 μPa)	PTS onset thresholds: <i>SEL_{24h}</i> (dB re 1 $\mu\text{Pa}^2\cdot\text{s}$)	TTS onset thresholds: <i>SEL_{24h}</i> (dB re 1 $\mu\text{Pa}^2\cdot\text{s}$)	Behavioural response (dB re 1 μPa)
LF cetaceans	183	168	160	199 (197*)	179 (177*)	120
HF cetaceans	185 (193*)	170 (178*)		198 (201*)	178 (181*)	

Source: NMFS (2014; 2018); Southall et al. (2019); NOAA (2019).

* Source: Updated thresholds: NMFS (2024).

To better understand any effect of the new lower thresholds, updates to the assessment process of PTS and TTS impacts on key low-frequency (LF) cetacean receptors, Woodside commissioned Jasco Applied Sciences (to re-model two of the conservative scenarios associated with the Scarborough Operations EP using the new threshold criteria (Connell et al., 2025). For this re-analysis, Scenario 4 was chosen to represent the credible worst-case noise scenario for FPU hookup and installation while Scenario 7 was chosen to represent worst-case noise during commissioning.

The updates to the PTS and TTS thresholds were not considered sufficiently significant to warrant re-modelling all scenarios, and investigation of the worst-case noise scenarios was considered adequate to understand impact of the threshold change.

Results for Scenario 4 and 7 using the new thresholds for continuous noise are summarised as follows:

- Remodelling of Scenario 4 using the updated thresholds showed the distance to reach the LF cetacean TTS threshold increased from 7.4 km to 11.7 km (60%), while the distance to reach the LF PTS threshold increased from 21 m to 59 m (180%).
- Remodelling of Scenario 7 using the updated thresholds showed the distance to reach the LF cetacean TTS threshold increased from 740 m to 940 m (27%), while the distance to reach the LF PTS threshold increased from 50 m to 70 m (40%).

These outcomes were considered indicative of the relative change that could be realised if lower thresholds were applied to predicted outcomes for LF cetaceans from other modelling studies. A conservative approach was applied to the Exmouth study (Li et al., 2024) outcomes used in this EP whereby the highest percentage increases from the Scarborough Operations EP's re-modelled scenarios (60% for TTS and 180% for PTS) were applied. The maximum predicted distances for a range of sound exposure level (SEL) within a 24-hour period (SEL_{24h}) threshold criteria, including the updated threshold for continuous noise for LF cetaceans, are presented in Table 6-8 and Table 6-10.

Marine reptiles

The Recovery Plan for Marine Turtles (Commonwealth of Australia, 2017) notes there is limited information available on the impact of noise on marine turtles and that the impact of noise on turtle stocks may vary depending on whether exposure is short (acute) or long-term (chronic). However, turtles have been shown to respond to low frequency sound, with indications that they have the highest hearing sensitivity in the frequency range 100 to 700 Hz (Bartol & Musick, 2003).

McCauley et al. (2000) observed the behavioural response of caged green and loggerhead turtles to impulsive sound (an approaching seismic airgun). For received levels above 166 dB re 1 μ Pa SPL, the turtles increased their swimming activity and above 175 dB re 1 μ Pa they began to behave erratically, which was interpreted as an agitated state as described in the Recovery Plan for Marine Turtles in Australia (Commonwealth of Australia, 2017). In addition, Popper et al. (2014) proposed qualitative impact criteria for behavioural responses to near-field, intermediate and far-field exposures of continuous noise sources (Popper et al., 2014).

Finneran et al. (2017) presented auditory PTS and TTS thresholds for turtles for both impulsive and continuous sound exposures, which have since been updated in Accomando et al. (2025). These revised thresholds were not available for the JASCO (Li et al., 2024) noise modelling; however, the modelling outputs have been re-interrogated with the new thresholds (Connell et al., 2025).

Relevant threshold criteria for marine turtles are summarised in Table 6-5.

Table 6-5: Impact thresholds for marine turtles for impulsive and continuous noise

Hearing group	Impulsive			Continuous		
	PTS onset thresholds: SEL _{24h} (dB re 1 μ Pa ² .s)	TTS onset thresholds: SEL _{24h} (dB re 1 μ Pa ² .s)	Behavioural response (dB re 1 μ Pa)	PTS onset thresholds: SEL _{24h} (dB re 1 μ Pa ² .s)	TTS onset thresholds: SEL _{24h} (dB re 1 μ Pa ² .s)	Behavioural response (dB re 1 μ Pa)
Marine turtles	204 (184) [^]	189 (169) [^]	166* 175 ⁺	220 (198) [^]	200 (178) [^]	(N) High (I) Moderate (F) Low#

Source: PTS and TTS thresholds (Finneran et al., 2017); * behavioural response threshold (impulsive) (National Science Foundation, 2011), + behavioural disturbance threshold (impulsive) (McCauley et al., 2000); # behavioural response threshold (continuous) (Popper et al., 2014).

[^] Revised thresholds (Accomando et al., 2025).

Note: relative risk (high, medium and low) is given for marine turtles at three distances from the source defined in relative terms as near (N – tens of metres), intermediate (I – hundreds of metres) and far (F – thousands of metres) (after Popper et al., 2014).

Fish, sharks and rays

The majority of fish species detect sounds from <50 Hz up to 500 to 1,500 Hz (Popper & Hawkins, 2019). A smaller number of species can detect sounds over 3 kHz, while very few species can detect ultrasound over 100 kHz (Ladich & Fay, 2013). The critical issue for understanding whether an anthropogenic sound will affect the hearing of a fish is whether it is within the hearing frequency range of the fish and loud enough to be detectable above background ambient noise.

Fish perceive sound through the ears and the lateral line, which are sensitive to vibration. Some species of teleost or bony fish (e.g. herring) have a structure linking the gas-filled swim bladder and ear, and these species usually have increased hearing sensitivity. These species are considered to be more sensitive to anthropogenic underwater noise sources than species such as cod (*Gadus* sp.), which do not possess a structure linking the swim bladder and inner ear. Fish species that either do not have a swim bladder (e.g. elasmobranchs (sharks and rays) and scombrid fish (mackerel and tunas) or have a much-reduced swim bladder (e.g. flat fish) tend to have a relatively low auditory sensitivity.

Considering these differences in fish physiology, Popper et al. (2014) developed sound exposure guidelines for fish; these are presented in Table 6-6 and are considered appropriate to assess continuous acoustic discharges to fish from the Petroleum Activity.

Table 6-6: Impact thresholds for fish, sharks and rays for impulsive and continuous noise

Hearing group	Impulsive			Continuous		
	PTS onset thresholds: <i>SEL_{24h}</i> (dB re 1 $\mu\text{Pa}^2\cdot\text{s}$)	TTS onset thresholds: <i>SEL_{24h}</i> (dB re 1 $\mu\text{Pa}^2\cdot\text{s}$)	Behavioural response (dB re 1 μPa)	PTS onset thresholds: <i>SEL_{24h}</i> (dB re 1 $\mu\text{Pa}^2\cdot\text{s}$)	TTS onset thresholds: <i>SEL_{24h}</i> (dB re 1 $\mu\text{Pa}^2\cdot\text{s}$)	Behavioural response (dB re 1 μPa)
Fish: no swim bladder	216	186	(N) High (I) Moderate (F) Low	(N) Low (I) Low (F) Low	(N) Moderate (I) Low (F) Low	(N) Moderate (I) Moderate (F) Low
Fish: swim bladder not involved in hearing	203	186	(N) High (I) Moderate (F) Low	(N) Low (I) Low (F) Low	(N) Moderate (I) Low (F) Low	(N) Moderate (I) Moderate (F) Low
Fish: swim bladder involving hearing	203	186	(N) High (I) High (F) Moderate	170 dB rms SPL for 48-hours	158 dB rms SPL for 12-hours	(N) High (I) Moderate (F) Low

Impulsive noise: All criteria are presented as sound pressure, even for fish without swim bladders, since no data for particle motion exist.

Continuous noise: rms SPL: root mean square of time-series pressure level, useful for quantifying continuous noise sources.

Relative risk (high, moderate, or low) is given for animals at three distances from the source defined in relative terms as near (N), intermediate (I) and far (F). The sound units provided in the table above for continuous noise include: relative risk (high, medium and low) is given for marine turtles at three distances from the source defined in relative terms as near (N – tens of metres), intermediate (I – hundreds of metres) and far (F – thousands of metres) (after Popper et al., 2014).

Modelling

To assess impacts of noise from Pyrenees Facility operations, an estimate of the ensonified area was conservatively derived from a modelling study of broader operations across the Exmouth Region configured to include close-proximity operations (Li et al., 2024). The modelling simulation involved five vessels, including three FPSOs, an OSV and an IMMR vessel (refer Figure 6-1). The noise sources and their source levels used in the modelling study included:

- Woodside Pyrenees Venture (PYR) FPSO – 173.9 dB re 1 $\mu\text{Pa}^2\text{m}^2\text{s}$
- Woodside Ngujima-Yin (NY) FPSO – 173.9 dB re 1 $\mu\text{Pa}^2\text{m}^2\text{s}$
- Santos Ningaloo Vision (NV) FPSO – 173.9 dB re 1 $\mu\text{Pa}^2\text{m}^2\text{s}$
- *Siem Thiima* – OSV – 189 dB re 1 $\mu\text{Pa}^2\text{m}^2\text{s}$
- IMMR vessel – *Fugro Etime* – 187.6 dB re 1 $\mu\text{Pa}^2\text{m}^2\text{s}$.

While the simulation is designed to reflect cumulative underwater noise exposure from FPSOs across the region, it is also considered to be a conservative analogue to peak operational conditions for the Pyrenees Facility representing concurrent offtake as well as IMMR or resupply activities.

The DP-enabled support vessel remains the dominant underwater noise source, with thruster use generating broadband source levels up to ~189 dB re 1 μPa @ 1 m. In comparison, the FPSO and offtake tankers, which are typically moored, produce lower noise levels, generally below ~181 dB re 1 μPa @ 1 m. The offtake tanker contribution is considered negligible as they remain in the Operational Area for less than two days for each of eight campaigns annually.

The conservative application of the modelling to peak operational conditions for the Pyrenees Facility is appropriate to account for potential underestimation of the Pyrenees Venture FPSO sound pressure level, and to recognise that scenario-specific configurations can influence noise propagation.

The predicted maximum distances for a range of SPL thresholds are provided in Table 6-7. The behavioural response threshold of 120 dB re 1 μPa was modelled to be exceeded up to 18.9 km of the dominant noise sources (16.9 km for 95% of the time), and this is also illustrated by sound level contours in Figure 6-1.

Table 6-7: Maximum distances for a range of sound pressure levels for vessel operations (Li et al., 2024)

SPL (Lp; dB re 1 μPa)	FPSO (NY), OSV, Santos FPSO (Ningaloo Vision), FPSO (Pyrenees Venture) and IMMR vessel
--------------------------------------	--

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	<i>R</i> _{max} (km)	<i>R</i> _{95%} (km)
180	—	—
170	0.02	0.02
160	0.04	0.04
158	0.05	0.04
150	0.11	0.11
140	0.52	0.37
130	2.18	2.00
120	18.9	16.9
110	66.3	52.9

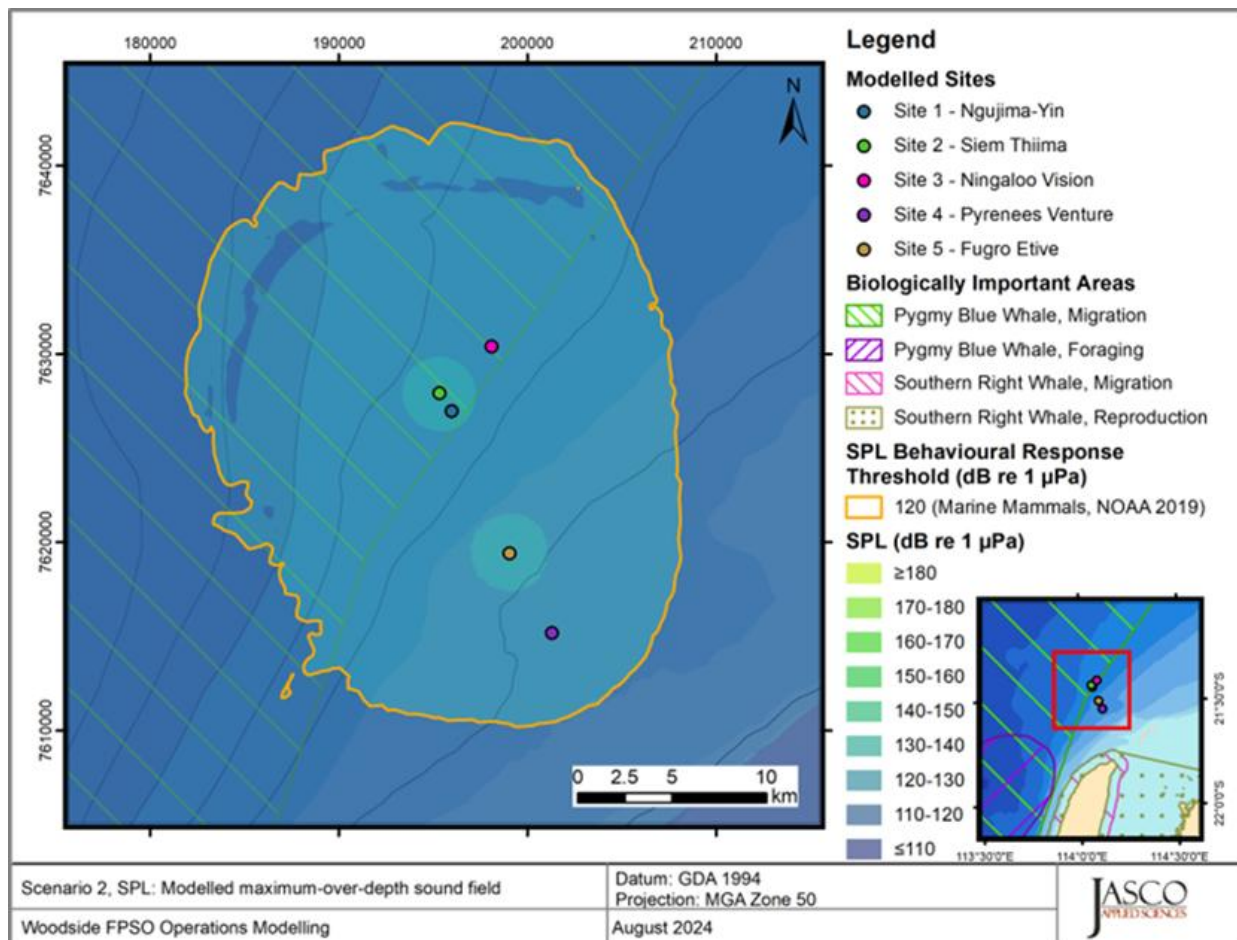


Figure 6-1: Sound pressure level contour map (Li et al., 2024)

The predicted maximum distance for a range of SEL_{24h} thresholds are provided in Table 6-8. The modelling of vessel operations indicates that PTS and TTS thresholds for LF cetaceans may be exceeded within a maximum distance of approximately 280 m (PTS) and 2.85 km (TTS). For marine turtles, the PTS threshold may be exceeded within 130 m and the TTS threshold may be exceeded within 2.86 km.

Table 6-8: Maximum distances for a range of sound exposure levels over 24 hrs for vessel operations (Li et al., 2024)

Hearing group	FPSO (NY), OSV, Santos FPSO (Ningaloo Vision),
---------------	---

	Frequency-weighted SEL _{24h} threshold (LE _{24h} ; dB re 1 μPa ² ·s)	FPSO (Pyrenees Venture) and IMMR vessel
		R _{max} (km)
PTS		
LF cetaceans	199	0.10
LF cetaceans (<i>updated threshold from NMFS, 2024</i>)	197	0.28
HF cetaceans	198	–
Very high frequency (VHF) cetaceans	173	0.11
Sea turtles	220	-
Sea turtles (<i>updated threshold from Accomando, 2025</i>)	198	0.13
TTS		
LF cetaceans	179	1.78
LF cetaceans (<i>updated threshold from NMFS, 2024</i>)	177	2.85
HF cetaceans	178	0.08
VHF cetaceans	153	1.72
Sea turtles	200	0.08
Sea turtles (<i>updated threshold from Accomando, 2025</i>)	178	2.86

The PTS and TTS thresholds are frequency-weighted cumulative sound exposure levels calculated over a continuous 24 hour period. Using these criteria, it is conservatively assumed that an animal remains within the sound field for the entire duration of exposure. Given that vessels operating DP systems are largely stationary, marine fauna would need to actively approach the vessel and remain in close proximity for 24 hours to experience harmful exposure levels. However, fauna such as cetaceans, fish and turtles are capable of moving away from potential noise sources, and there are no constraints to the movement of this fauna within the Operational Area. Consequently, the potential for noise-induced mortality, PTS, or TTS in marine mammals, fish and sea turtles is considered not credible.

In summary, impacts from Pyrenees Facility operations are conservatively considered to be:

- Cetaceans: behavioural disturbance may occur approximately 18.9 km from vessel operations within the Operational Area (16.9 km for 95% of the time).
- Fish: potential masking and behavioural disturbance at near and intermediate range; likelihood of TTS is considered not to be credible given fish would move away from the source – demersal fish are not expected to be exposed to underwater noise above impact thresholds.
- Turtles: potential masking and behavioural disturbance at intermediate and far range.

All support vessels are required to comply with EPBC Regulation 2000 – Part 8 Interacting with cetaceans to reduce the likelihood of collisions with cetaceans (refer to Section 6.8.11). Implementing this control may also reduce the noise generated by vessels in proximity to cetaceans, as vessels are travelling slower; slower vessel speeds may reduce underwater noise from machinery (main engines) and propeller cavitation.

Impulsive noise from IMMR activities

IMMR activities may generate a range of acoustic emissions; however, the most significant is expected to be from the use of underwater survey equipment. Therefore, this impact assessment is based on the use of MBES and SSS; all other routine IMMR activities are expected to cause lower impacts than those discussed herein.

Underwater noise from MBES and SSS will attenuate rapidly in the water column due to the relatively high frequency of noise emissions from these sources. The operating frequencies of MBES (12 to 700 kHz) and SSS (75 to 900 kHz) are well above the hearing range of turtles (1 to 2 kHz) and so no disturbance is expected. It is possible that some of the lower frequency sound emitted by sub-bottom profilers (2 to 30 kHz) may be audible to turtles, but again, a large proportion of the sound energy may be at frequencies that are outside of their normal auditory range. Modelling of impulsive sub-bottom profiler sound emissions by Mathews & Zikov (2013) and McPherson et al. (2017) indicates the 166 dB re 1 µPa (SPL) behavioural disturbance threshold for turtles may only be exceeded within metres or tens of metres of the survey instruments. Therefore, behavioural impacts would be highly localised. PTS or TTS is not considered to be credible given the rapid attenuation of sound close to the source and a large proportion of the sound

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

energy is produced at frequencies outside the peak hearing frequency range of turtles. No significant impacts to sensitive fauna are expected to occur as a result of these sources.

Sub-bottom profilers are typically lower frequency than multibeam echo sounders or side scan sonar, and acoustic emissions from sub-bottom profilers may propagate further in the water column. Based on typical source levels and frequencies for sub-bottom profilers and the geometric spreading equation present in vessel noise above, received levels from a sub-bottom profiler will attenuate to 160 dB re 1 μ Pa rms SPL within approximately 250 m of the source. This is comparable to the noise potentially produced by thrusters (refer to vessel noise section above for a discussion of potential impacts), although sub-bottom profiler emissions are impulsive rather than continuous. Potential impacts to cetaceans from MBES, SSS and sub-bottom profiler may, therefore, include behavioural disturbance if in close proximity to the survey instruments, but ranges to disturbance are less than or equivalent to disturbance ranges for the IMMR vessel itself. PTS or TTS are not considered credible, given individuals would need to be directly next to the noise sources for prolonged duration.

Subsea infrastructure

Given the low levels of noise emitted by subsea infrastructure such as wellheads, choke valves and flowlines, no impacts to marine fauna from these noise sources are expected. Measurements of noise generated by choke valves indicated it is relatively high frequency (>1 kHz) and hence will attenuate over relatively short distances in the water column; significant impacts to marine fauna are not considered credible.

The predicted maximum distance for a range of SPL thresholds are provided in Table 6-9. The behavioural response threshold of 120 dB re 1 μ Pa was modelled to be exceeded up to 170 m of a wellhead (160 m for 95% of the time).

Table 6-9: Maximum distances for a range of sound pressure levels for subsea infrastructure (Li et al., 2024)

SPL (Lp; dB re 1 μ Pa)	Scenario 1: Wellhead 1		Scenario 2: Wellhead 2		Scenario 3: Wellheads 1 and 2	
	Rmax (km)	R95% (km)	Rmax (km)	R95% (km)	Rmax (km)	R95% (km)
180	–	–	–	–	–	–
170	–	–	–	–	–	–
160	–	–	–	–	–	–
150	–	–	–	–	–	–
140	–	–	–	–	–	–
130	0.02	0.02	0.04	0.04	0.04	0.04
120	0.15	0.14	0.17	0.15	0.17	0.16
110	0.63	0.58	0.71	0.64	0.71	0.65

The predicted maximum distance for a range of SEL_{24h} thresholds are provided in Table 6-10. The modelling of subsea infrastructure indicates that PTS and TTS thresholds for LF cetaceans may be exceeded within a maximum distance of approximately 30 m (PTS) and 70 m (TTS). The maximum distance for the revised PTS and TTS thresholds for sea turtles (Accomando, 2025) was not available at the time of the modelling, however, are not expected to be above these minor extents of 30 m and 70 m, respectively.

Table 6-10: Maximum distances and area for a range of sound exposure levels over 24 hrs for subsea infrastructure (Li et al., 2024)

Hearing group	Frequency-weighted SEL _{24h} threshold (LE,24h; dB re 1 µPa ² ·s)	Scenario 1: Wellhead 1		Scenario 2: Wellhead 2		Scenario 3: Wellheads 1 & 2	
		Rmax (km)	Area (km ²)	Rmax (km)	Area (km ²)	Rmax (km)	Area (km ²)
PTS							
LF cetaceans	199	–	–	–	–	0.01	\
LF cetaceans (NMFS, 2024 updated threshold)	197	-	-	-	-	0.03	\
HF cetaceans	198	–	–	–	–	–	–

VHF cetaceans	173	–	–	0.02	\	0.03	\
Sea turtles	220	–	–	–	–	–	–
TTS							
LF cetaceans	179	0.02	\	0.04	\	0.03	\
LF cetaceans (NMFS, 2024 updated threshold)	177	0.03	\	0.07	\	0.05	\
HF cetaceans	178	–	–	–	–	–	–
VHF cetaceans	153	0.32	0.26	0.34	0.31	0.34	0.32
Sea turtles	200	–	–	–	–	–	–

Species-specific impact assessment

Cetaceans

As the migration BIA for humpback whales overlaps the Operational Area and the migration BIA for pygmy blue whales is within 5 km (Table 4-10), there is the potential for these species to be exposed to underwater noise levels from vessel activities that may alter their behaviour when they are present in the region during seasonal migrations. Tagging studies of pygmy blue whales (PBW) have shown the migratory pathway appears to be in deeper water to the west of the Operational Area. Any PBW presence in the vicinity of the Pyrenees Venture FPSO are likely to be migratory in nature.

Aerial surveys of humpback whales off North West Cape did not observe any apparent displacement of humpback whales from the area around the nearby NY FPSO (RPS Environment and Planning, 2010a). The majority of humpback whales observed during these surveys were east of the NY FPSO, which is consistent with other surveys showing that the majority of humpback whales migrate within continental shelf waters along WA (Double et al., 2010; 2012a).

Humpback whales are regularly observed in close proximity to the Pyrenees Venture FPSO. Maximum emitted noise levels are below the PTS threshold criteria and are expected to reach TTS thresholds within a short distance.

Avoidance behaviour has not been observed. Given that the overlap of the potentially ensonified area with the BIA is a minor proportion of the overall BIA and the location is not confined, it is considered unlikely that humpback whales are adversely impacted by noise from vessel operations.

The Conservation Management Plan for the Blue Whale (Commonwealth of Australia, 2015a) and associated guidance on key terms requires that pygmy blue whales not be displaced from a foraging area. The nearest recognised foraging BIA for pygmy blue whales is approximately 32 km from the Operational Area at the closest point (Table 4-10). Underwater noise from the Petroleum Activity is therefore unlikely to exceed the behavioural impact threshold within the pygmy blue whale foraging BIA.

The National Recovery Plan for the Southern Right Whale (DCCEEW, 2024a) also identified anthropogenic noise as a threat, and requires that actions within and adjacent to the southern right whale BIA and habitat critical should demonstrate that it does not prevent any southern right whale from utilising the area or cause auditory impairment and should also demonstrate that the risk of behavioural disturbance is minimised.

In 2024, trained crew observed four southern right whales near the Nguijima-Yin FPSO and the North Rankin Complex. The three individuals observed at the Nguijima-Yin FPSO were resting at the surface showing no sign of behavioural avoidance.

The maximum predicted extent of underwater noise exceeding the behavioural threshold is 18.9 km. This remains outside the boundaries of the southern right whale BIA and habitat critical, which are at least 19 km from the nearest Pyrenees subsea infrastructure and approximately 22 km from the Pyrenees FPSO (refer Figure 4-11, Figure 6-1 and Table 4-10).

The activity is therefore not considered likely to prevent southern right whales from accessing and using the BIA and habitat critical, cause auditory impairment, or present a high risk of behavioural disturbance. Key factors supporting this conclusion include:

- The predicted area over which the cetacean behavioural threshold may be exceeded could approach the southern boundary of the southern right whale BIA and habitat critical during periods of vessel activity near the closest subsea infrastructure. However, the noise levels at the perimeter of these sensitive areas would be near threshold levels. Importantly, IMMR activities that involve dynamic positioning are intermittent and of short duration (typically lasting hours to days), further reducing the likelihood of prolonged exposure or significant behavioural disturbance.
- The predicted footprint is 16.9 km for 95% of the time allowing at least a 2 km corridor between the ensonified area and the southern right whale BIA and habitat critical.
- The Operational Area is located in open ocean with no physical barriers (e.g. shallow waters, embayments) that could restrict whale movement or avoidance behaviours.

- Any potential deviation in migratory routes of individuals transiting outside the BIA is considered unlikely and insignificant given the whales' extensive migration range and high mobility.

Mid- and high-frequency cetaceans (e.g. dolphins) are known to show behavioural disturbance to increased underwater noise, including short-term avoidance or attraction (Southall et al., 2007). However, cetaceans regularly exposed to vessel noise may also habituate and adapt to these sounds (Richardson et al., 1995; NRCC, 2003), as may be the case for the humpback whales that regularly pass through areas of significant shipping traffic during migration.

Fish

Demersal and pelagic fish species are present in the Operational Area, including fish communities associated with the Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula and the Continental Slope Demersal Fish Communities KEFs. Vessels holding station using DP are expected to produce sound equivalent to about 182 dB re 1 μ Pa SPL at 1 m. Modelling undertaken by McPherson et al. (2019) of sound produced by facility and vessel operations found that recoverable injury to some types of fish would only be possible if they remained within a distance of less than 10 m for 48 hours, and TTS if fishes remained within 10 m for at least 12 hours. Pelagic fish are highly mobile and the types of demersal fishes known to occur in the vicinity of the Pyrenees Venture FPSO (e.g. snappers, emperors, cods and groupers) will exhibit some fidelity to the area but are still relatively free-swimming and are not constrained to such close ranges (i.e. 10 m). Therefore, free-swimming fish remaining in close range to sound sources for periods that subject themselves to TTS and injury is not considered to be a credible scenario.

Potential noise impacts to fish (including whale sharks) are expected to be restricted to masking and behavioural disturbance. Fish may temporarily be displaced from the immediate vicinity of a noise source; however, they would be expected to behave normally once the noise emissions ceased. Benthic species with site fidelity are not likely to be affected by the activity due to the depths to likely habitats and noise attenuation.

A foraging BIA for whale sharks overlaps the Operational Area and this species may be seasonally present (particularly between March and July) during their annual migration to, and from, the aggregation area off Ningaloo Reef. Whale sharks are not considered to be particularly vulnerable to underwater noise, as they do not have a swim bladder (considered to increase the vulnerability of a fish to noise related impacts). Received noise levels are expected to reduce to 103 dB re 1 μ Pa within 5 km of the Operational Area (McCauley, 1998). Currently, there are no quantitative sound exposure thresholds relevant to whale sharks. It is expected that the potential effects of noise on whale sharks are the same as for other fish species, resulting in minor, localised and temporary behavioural change such as avoidance. Noise attributed to the activity is not likely to interfere with the movement of whale sharks to and from the foraging area at the Ningaloo Reef, given the location is not confined and would not prevent the species from passing through. Therefore, impacts to whale sharks from the Pyrenees Venture FPSO or support vessels are expected to have no lasting effect on the species.

Turtles

Turtles may occur in the Operational Area as the area contains internesting BIAs and defined habitat critical. The Operational Area has minor overlap with hawksbill, green and loggerhead turtle internesting BIA and complete overlap with flatback turtle internesting BIA. The Operational Area also overlaps the habitat critical to the survival of the flatback turtle.

The relative risk of behavioural responses to continuous sound sources is expected to be high within tens of metres of the source, medium within hundreds of metres and low within kilometres from the source. Typical noise levels generated by the FPSO and a support vessel using DP would not exceed these levels and prolonged exposure at close range is not considered a credible scenario.

Using the threshold criteria from Finneran et al. (2017) and Accomando (2025) to assess PTS and TTS for sea turtles the maximum distances to the thresholds were 2.86 km for TTS and 130 m for PTS.

The PTS and TTS thresholds are based on cumulative sound exposure levels calculated over a 24-hour period and it is conservatively assumed that an animal remains within the sound field for the entire duration of exposure. Given that vessels operating DP systems are largely stationary, marine fauna would need to actively approach the vessel and remain in close proximity for 24 hours to experience harmful exposure levels.

Prolonged exposure (≥ 24 hours) of marine turtles within this limited range is not considered credible with turtles capable of avoiding noise sources, and there are no barriers to movement within the Operational Area. The extent of overlap of the internesting areas by noise levels above the PTS or TTS thresholds is limited to less than 1% of the flatback turtle internesting BIA and habitat critical to survival and even less than this for the three other turtle species BIAs with minor overlaps with the Operational Area.

In addition, the DP enabled support vessel is the dominant underwater noise source for the activity during offtakes, resupply or IMMR. Activities that involve DP are intermittent and of short duration (typically lasting hours to days), further reducing the likelihood of prolonged exposure or significant behavioural disturbance.

Based on the above, no significant or lasting impacts to marine turtles from underwater noise is expected.

Cumulative impacts

Woodside have considered the potential noise emitting activities that could overlap with the Petroleum Activity both temporally and spatially. This includes consideration of the proximity of Woodside's Ngujima-Yin FPSO, Pyrenees Venture FPSO and Stybarrow operations, as well as Santos' Ningaloo Vision FPSO operations. There is an overlap between the Pyrenees Facility Operational Area and the Macedon Operational Area in proximity to the Macedon-6

well; however, it is not expected that any more than one IMMR vessel would be present in the Pyrenees Operational Area, with this vessel likely used to complete tasks required for both fields sequentially.

The modelling study of broader operations across the Exmouth region involved five vessels, including three FPSOs, an OSV and an IMMR vessel (refer Figure 6-1) designed to reflect cumulative underwater noise exposure from FPSOs across the region and relevant current vessel activities (offtake, IMMR/support).

The regional cumulative impact assessment predicts outcomes similar to those presented for Pyrenees Facility operations as it uses the same modelling approach and conservative operational assumptions. The predicted noise footprint above behavioural thresholds may approach the southern boundary of the southern right whale BIA and habitat critical during vessel activities at the nearest subsea infrastructure within the Pyrenees Facility Operational Area, but exposure would be of short duration (hours to days). Given the open-ocean setting, absence of natural barriers, and the high mobility of cetaceans, any behavioural responses are expected to be minor, temporary and unlikely to cause displacement, alteration of migration routes, or biologically significant impacts.

Overall, Woodside considers that the management of potential cumulative noise impacts to the pygmy blue whale is not inconsistent with the Blue Whale Conservation Management Plan (DCCEEW, 2021) or the National Recovery Plan for the Southern Right Whale (DCCEEW, 2024a).

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/ risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with cetaceans, including the following measures ³⁶ : - Support vessels will not travel greater than 6 knots within 300 m of a cetacean or turtle (caution zone) and not approach closer than 100 m from a whale. - Support vessels will not approach closer than 50 m for a dolphin or turtle and/or 100 m for a whale (except animals bow riding). - If the cetacean shows signs of being disturbed, support vessels will immediately withdraw from the caution zone at a constant speed of less than 6 knots.	F: Yes. CS: Minimal cost. Standard practice.	Implementation of these controls will reduce the likelihood of a collision between a cetacean, whale shark or turtle occurring.	Controls based on legislative requirements – must be adopted.	Yes C 5.1

³⁶ For safety reasons, the distance requirements below are not applied for a vessel holding station or with limited manoeuvrability e.g. anchor handling, loading, back-loading, bunkering, close standby cover for overside working and emergency situations.

Vessels will comply with <i>Biodiversity Conservation Regulations (WA) 2018</i> for whale shark speed control and separation distances: Vessels will not travel greater than 6 knots within 250 m of a whale shark and not allow the vessel to approach closer than 30 m of a whale shark.	F: Yes. CS: Minimal cost. Standard practice.	Implementation of controls for reduced vessel speed around whale sharks can potentially reduce the underwater noise footprint of a vessel.	Benefits outweigh cost/sacrifice. Good practice.	Yes C 5.2
Good practice				
Vary the timing of the Petroleum Activity to avoid migration, interesting or sensitive periods.	F: No. The Petroleum Activity occurs continuously over a five-year period and modifying the timing of the Petroleum Activity is not feasible. CS: Not considered, control not feasible.	Not considered, control not feasible.	Not considered, control not feasible.	No
Vessels will not travel greater than 6 knots within 300 m of a turtle (caution zone). If the turtle shows signs of being disturbed, vessels will immediately withdraw from the caution zone at a constant speed of less than 6 knots.	F: Yes. CS: Minimal cost. Standard practice.	Implementation of controls for reduced vessel speed around turtles can potentially reduce the underwater noise footprint of a vessel.	Benefits outweigh cost/sacrifice. Good practice.	Yes C 5.3
Implementing a shutdown zone around MBES for the following fauna: - whales - marine turtles - whale sharks.	F: Yes. However, as equipment is underwater, effective implementation of zones is challenging from topside observation. CS: Moderate. Requires the provision of a dedicated suitably trained crew member to undertake marine fauna observations.	Limited. The areas of disturbance for these devices are limited to within about 290 m of the source. In addition, it is noted that for MBES, the frequency range of these devices are outside the estimated frequency hearing range of identified protected species (whales, turtles and whale sharks).	The source levels and frequency range of these devices are outside the estimated frequency hearing range of identified protected species (whales, turtles and whale sharks), so costs are considered disproportionate to benefits.	No
Have a dedicated experienced and trained Marine Fauna Observer (MFO) onboard vessels to undertake marine fauna observations.	F: Yes, however additional cost for dedicated and experienced MFO to be present during IMMR CS: Moderate, requires the provision of a dedicated experienced MFO to undertake marine fauna observations.	Use of an MFO may detect fauna in the area, however control provides limited benefit when managing impacts associated with vessel noise alone.	Given limited benefit associated with the management of vessel noise impacts and costs associated with control implementation an experienced MFO is not considered necessary.	No

Professional judgement – Eliminate				
Eliminate the use of DP on vessels during the Petroleum Activity.	F: No. Vessels are required to reliably hold station during the Petroleum Activity. Failure to do so may lead to loss of separation between vessels and infrastructure. This would result in unacceptable safety and environmental risk (loss of vessel separation has been identified in Section 6.8). CS: Not considered, control not feasible.	Not considered, control not feasible.	Not considered, control not feasible.	No
Avoid, where practicable, planned IMMR vessel activities, during humpback whale migration (Jun to Sep, Jul to Nov), southern right whale migration (May to Sep) and southern right whale breeding (Apr to Oct).	F: Yes CS: Significant increased cost for logistics and restriction of vessel availability due to extensive period (eight months).	Planning to avoid, where practicable, planned IMMR activities during humpback whale and southern right whale migration and breeding will reduce underwater noise emissions in the humpback whale migration BIA and reduce noise in close proximity to the southern right whale BIA. However, given the infrequent noise emissions from IMMR vessel(s), for a limited duration (up to two weeks per year), the size and extent of the migration BIAs, the extensive period that the whales may be present, and the behaviour of the whales being transitory during migration, it is expected that this would have a very limited benefit, if any, on the migration behaviour of humpback and southern right whales.	The cost sacrifice is disproportionate to the benefit gained.	No
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
Application of bubble curtains to reduce noise propagation.	F: No, Bubble curtain installation and operation in offshore open water not feasible due to technical operation constraints i.e. water depth/current.	Not considered, control not feasible.	Not considered, control not feasible.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Manage support vessel speed in the Operational Area during humpback whale migration (Jun to Sep, Jul to Nov), southern right whale migration (May to Sep) and southern right whale breeding (Apr to Oct).	F: Yes. It is possible to carry out for vessels transiting within the Operational Area. CS: Longer transit times for vessels.	Vessel speeds can reduce vessel underwater noise emissions and increase the likelihood that fauna will be seen by vessels (and have more time to react) thereby reducing possibility of vessel strike.	Benefits outweigh cost/sacrifice.	Yes C 5.4
---	--	--	-----------------------------------	--------------

ALARP statement:

On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the impacts from routine acoustic emissions from Pyrenees Facility operations to be ALARP. As no reasonable additional/alternative controls were identified that would further reduce the impacts without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.

Demonstration of acceptability

Acceptability statement:

The impact assessment has determined that, in its current state, impacts from routine acoustic emissions from Pyrenees Facility operations represent a minor impact /disturbance to marine fauna. Further opportunities to reduce the impacts and risks have been investigated above. The impacts are consistent with good oil-field practice/industry best practice and are considered to be broadly acceptable in its current state. Therefore, Woodside considers standard operations appropriate to manage the impacts of acoustic emissions to a level that is tolerable and demonstrate that the EPOs are met.

EPOs, EPSs and MC

Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
EPO 6 No injury of, or mortality to, EPBC Act 1999 listed marine fauna as a result of noise generated by the Petroleum Activity.	C 5.1 Vessels will comply with the EPBC Regulations 2000 – Part 8 Division 8.1 and 8.3.	PS 5.1 Vessels will comply with EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with cetaceans, which include the following measures:	MC 5.1.1 Records demonstrate no breaches with EPBC Regulations 2000 – Part 8 Division 8.1 and 8.3
EPO 7 No displacement of marine turtles or southern right whales from habitat critical during nesting/breeding (inc. internesting periods for turtles) and ensure biologically important behaviour can continue in BIAs (e.g. humpback and southern right whale migration BIAs).		- Vessels will not travel greater than 6 knots within 300 m of a cetacean or turtle (caution zone) and not approach closer than 100 m from a whale. - Vessels will not approach closer than 50 m for a dolphin or turtle and/or 100 m for a whale (except animals bow riding). - If the cetacean shows signs of being disturbed, activity support vessels will immediately withdraw from the caution zone at a constant speed of less than 6 knots.	MC 5.1.2 Records demonstrate reporting cetacean ship strike incidents to the DCCEEW.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPOs, EPSs and MC			
	C 5.2 Vessels will comply with Biodiversity Conservation Regulations (WA) 2018 for whale shark speed control and separation distances: Vessels will not travel greater than 6 knots within 250 m of a whale shark and not allow the vessel to approach closer than 30 m of a whale shark.	PS 5.2 When within 250 m of a whale shark, vessels do not travel faster than 6 knots nor approach within 30 m.	MC 5.2 Incident reports are raised for breaching speed or distance requirements in relation to whale sharks.
	C 5.3 Vessels will not travel greater than 6 knots within 300 m of a turtle (caution zone). If the turtle shows signs of being disturbed, vessels will immediately withdraw from the caution zone at a constant speed of less than 6 knots.	PS 5.3 When within 300 m of a turtle, vessels will not travel greater than 6 knots.	MC 5.3 Records demonstrate no breaches of speed requirements when within 300 m of a turtle.
	C 5.4 Manage support vessel speed in the Operational Area during humpback whale migration (Jun to Sep, Jul to Nov), southern right whale migration (May to Sep) and southern right whale breeding (Apr to Oct).	PS 5.4 Vessel speeds in the Operational Area are restricted ≤ 10 knots during humpback whale migration (Jun to Sep, Jul to Nov), southern right whale migration (May to Sep) and southern right whale breeding (Apr to Oct).	MC 5.4 Records demonstrate vessel speeds in the Operational Area were ≤ 10 knots during humpback whale migration (Jun to Sep, Jul to Nov), southern right whale migration (May to Sep) and southern right whale breeding (Apr to Oct).

6.7.5 Routine and non-routine atmospheric and greenhouse gas emissions

Context														
Production process – Section 3.13 Utility systems – Section 3.15 Subsea IMMR activities – Section 3.19							Physical environment – Section 4.4			Consultation – Section 5				
Impacts evaluation summary														
Source of impact	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Routine emissions from diesel driven machinery, gas-powered turbines and heaters, venting, and operational flaring onboard the Pyrenees Venture FPSO				x				A	1 –Minor	-	-	LCS GP PJ	Tolerable	EPO 8, 9
Support vessel and helicopter operations				x										
Consideration of indirect emissions associated with third party transportation, oil refining and combustion by end users				x				B	1 –Minor			LCS GP PJ RBA CV SV		EPO 10
Source of impact														
Air emissions generated during the Petroleum Activity can be classified into two categories:														
- Atmospheric pollutants (non-greenhouse gas emissions) are gases and particulates from an activity, or piece of machinery, which have a recognised adverse effect on human health and/or the environment. The main emissions responsible for these effects include carbon monoxide, oxides of nitrogen, sulphur dioxide, particulate matter less than 10 microns, and non-methane volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene and xylenes (BTEX). - Greenhouse gas (GHG) emissions. GHG refers to those gases within the atmosphere that absorb long-wave radiation, and thus trap heat reflected from the Earth’s surface. The main gases associated with this effect include carbon dioxide (CO₂), methane and nitrous oxide (N₂O). Other GHGs include perfluorocarbons, hydrofluorocarbons and sulphur hexafluoride.														
In this section, atmospheric emissions estimates are developed in line with the National Pollutant Inventory (NPI) emission estimation techniques. GHG emissions are estimated using the <i>National Greenhouse and Energy Reporting (NGER) Measurement Determination 2008</i> (Cth) and reported as required under the NGER Scheme.														
The following section has been separated into direct emissions (Scope 1) and indirect emissions (Scope 3), aligned with the definitions of the GHG Protocol Corporate Standard (GHG Protocol 2015) and NGER. As the Pyrenees Venture FPSO generates its own power, there are no Scope 2 emissions associated with the activity.														
The main source of GHG emissions associated with the Petroleum Activity are from fuel gas consumption, as shown in Table 6-11. Emissions from flaring are stable during routine operations, but may increase during non-routine operations, such as during maintenance campaigns as well as disconnection and re-connection for cyclone avoidance or sail away and return from shipyard maintenance.														

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

GHG emissions sources that are not part of the direct Petroleum Activity such as GHG emissions from third party transportation, oil refining and combustion by end-users of the oil product, are included for consideration as indirect emissions. In the context of this EP, GHG emissions are classified as either direct and indirect emissions, as shown in Table 6-14 and consistent with the GHG Protocol 2015.

The GHG Protocol 2015 defines indirect GHG emissions as “*emissions that are a consequence of the activities of the reporting entity but occur at sources owned or controlled by another entity*”. For the purposes of this EP, the ‘reporting entity’ is the Pyrenees Facility and therefore, third-party transportation, oil refining and combustion of the oil product by end-users, as well as third-party contracted support vessel/helicopter operations, are considered indirect emissions sources.

Direct atmospheric and GHG emissions

Direct emissions generated from the Pyrenees Venture FPSO during the Petroleum Activity include emissions from gas turbines (that can also run on diesel), flares, fugitives and process vents. Direct emissions and combustion products include CO₂, water vapour, oxides of nitrogen, sulphur dioxide, particulates and VOCs.

A historical four-year emissions summary of GHG emissions from the Pyrenees Venture FPSO is provided in Table 6-11. Estimates for GHG emissions are derived from a review of NGER Scheme reporting for all relevant direct emissions streams since financial year FY21.

Table 6-11: Four-year Pyrenees Venture FPSO GHG (National Greenhouse and Energy Reporting) emissions summary

Emissions	FY21	FY22	FY23	FY24
Fuel gas				
m ³	73,133,640	75,728,220	70,570,520	42,062,749
CO ₂ (t)	147,731	152,973	142,554	84,968
Methane tonnes of CO ₂ equivalent (tCO ₂ e)	287	298	277	165
N ₂ O (tCO ₂ e)	86	89	83	50
Diesel				
m ³	984	197	1,027	2,612
CO ₂ (t)	2,654	532	2,771	7,048
Methane (tCO ₂ e)	4	1	4	10
N ₂ O (tCO ₂ e)	8	2	8	28
Fuel gas and diesel emissions: total emissions (%)	79.9	85.4	82.5	79.2
Flared gas				
Tonnes	9,726	6,640	5,797	4,906
CO ₂ (t)	27,234	18,593	16,231	13,736
Methane (tCO ₂ e)	9,075	6,195	5,408	4,577
N ₂ O (tCO ₂ e)	253	173	151	128
Flared gas emissions: Total emissions (%)	19.4	13.9	12.3	15.8
Fugitives				
Fugitives (tCO ₂ e)	1,477	1,366	9,167	5,841
Total				
Total (tCO ₂ e)	188,808	180,219	176,654	116,550
Total (MtCO ₂ e)	0.19	0.18	0.18	0.12

Inter-annual variation in realised air emissions is due to a number of factors such as reservoir and production system performance, planned activities (e.g. shutdowns and maintenance) and unplanned disconnection and reconnection for cyclone avoidance, or reliability events.

For example, FY24 recorded the lowest annual total emissions to date, primarily due to the FPSO being off-station for an extended shipyard maintenance period. This sail-away event significantly reduced fuel gas consumption and flaring due to being off-station for approximately three months. Steaming to and from the shipyard (in Australian waters, outside the Operational Area) contributed to the increased diesel use in FY24. Further, fugitive emissions reporting in FY21 and FY22 were limited in scope, as emissions from PW systems were not included during those years.

FY23 provides the most complete and representative picture of routine operations. It reflects a full year of production without significant unplanned interruptions and includes more comprehensive fugitive emissions reporting. Total GHG emissions in FY23 of 176,654 tCO₂e is considered the most representative annual value to achieve on average over the next five-year period under this EP. Throughout the life of this EP, absolute and relative annual emissions from individual streams are expected to fluctuate. These variations are primarily driven by operational changes, e.g. sail away for maintenance, as well as unplanned events, including increased cyclonic activity that may require facility disconnection and reconnection. Such fluctuations are inherent to the nature of offshore activities and are not indicative of abnormal performance.

Over the last four years (FY21 to FY24), the relative contribution to total emissions from fuel consumption (fuel gas and diesel) to total emissions has ranged between 79.2% to 85.4%. Similarly, flaring has contributed between 12.3% and 19.4%. These figures reflect standard operational variability and highlight the dynamic nature of emissions profiles in offshore operations.

Fluctuations across emissions streams are anticipated to balance out, enabling total GHG emissions to be limited to below FY23 levels annually on average over the life of the EP as a realistic target, continuing through to EOFL (2035). Ongoing efforts to optimise operations and implement emissions reduction measures are aimed to mitigate any overall increase in emissions, as far as practicable.

Fuel gas and diesel consumption

Fuel gas consumption for compression and power generation is the predominant source of combustion emissions from the Pyrenees Venture FPSO, primarily from the three 7,000 kW gas turbine generators and steam generating boilers. The turbines may run on fuel gas or diesel. Emergency diesel generators may also be used when required. Diesel is used for firewater pumps, emergency generators, cranes and back-up fuel for the turbine generators.

FY23 provides the most complete and representative picture of routine fuel gas consumption. Total fuel gas use in FY23 was 70,570,520 m³ and associated GHG emissions were approximately 142,914 tCO₂e, and this is the annual value expected to be achieved annually over the next five-year period under this EP, and until EOFL, for the reasons provided in the section above.

Total diesel consumption in FY23 was 1,027 m³ and associated GHG emissions were approximately 2,783 tCO₂e. Diesel consumption from routine operations should remain stable with any material variance in a typical operational year driven by unplanned shutdown activity (e.g. disconnection and reconnection from cyclones) or reliability events. Diesel consumption is forecast to increase up to 2,612 m³ in a year in which the FPSO sails away for shipyard maintenance e.g. as shown for FY24. Total emissions for the year is, nevertheless, anticipated to remain within the annual level reported for FY23 due to the reduction in fuel gas use due to the FPSO being off station for an extended period.

Estimated annual emissions from fuel gas and diesel combustion at the Pyrenees Venture FPSO are summarised in Table 6-12. The emissions values include exhaust gas from the steam boilers, which is used to blanket tanks storing non-volatile fluids and chemicals, the cargo tanks and slops tanks. This exhaust gas is released when it is displaced by the tanks being filled. The estimated annual emissions from fuel gas and diesel combustion have been estimated using emissions factors (as per National Greenhouse and Energy Reporting (NGER) (Measurement) Determination 2008 and National Pollutant Inventory (NPI) Emission Estimation Techniques (EET)).

Table 6-12: Estimated annual emissions from fuel gas and diesel combusted onboard the Pyrenees Venture FPSO

Component	Emissions from fuel gas combustion	Emissions from diesel combustion	
		Normal year	Sail away year ¹
Volume (m ³)	70,570,520	1,027	2,612
CO ₂ (t)	142,554	2,771	7,048
Methane tonnes of CO ₂ equivalent (tCO ₂ e)	277	4	10
N ₂ O (tCO ₂ e)	83	8	28

Total tCO₂e	142,914	2,783	7,086
Oxides of nitrogen (t)	571	54	138
Carbon monoxide (t)	146	14	37

¹ Sail away for maintenance is planned for 2026 and typically undertaken approximately every 5 years. Total emissions from fuel gas and diesel combusted for a sail away year is anticipated to remain within the total annual amount reported for FY23 even though diesel use is expected to increase. This is due to the reduction in fuel gas use in that year due to the FPSO being off station for an extended period.

Flaring

During normal operations, injection into and back-flow of gas from the Macedon well is continuously adjusted to meet the fuel gas demand of the Pyrenees Facility, which minimises potential flaring and associated GHG emissions from the hydrocarbon production system.

Flaring of hydrocarbon gas may occur via the HP and LP flare systems under various scenarios. The average combustion efficiency of the Pyrenees Facility flare is estimated to be approximately 98%. The HP and LP systems are maintained to ensure availability and efficient combustion of hydrocarbons, including maintenance of the flare tip flare ignition system (C 6.9). In addition, a plan is in place to develop a new performance standard to capture key requirements for environmental emissions monitoring equipment (C 6.6).

Gas flaring emits greenhouse gases to the atmosphere from combustion of natural gas, a non-renewable resource. Emissions and combustion products include CO₂, oxides of nitrogen, sulphur dioxide, methane, particulates, and VOCs. Incomplete combustion under certain scenarios may also generate dark smoke.

In 2017, Woodside became signatory to the World Bank's Zero Routine Flaring Initiative, applicable to all oil assets. Woodside's implementation of the initiative involves reporting on flaring according to the following definitions:

- **Routine flaring:** Routine flaring of gas is flaring during normal oil production operations in the absence of sufficient facilities or amenable geology to re-inject the produced gas, utilise it on-site or dispatch it to a market. This includes e.g. flaring from oil/gas separators. Routine flaring does not include safety flaring, even when continuous.
- **Safety flaring:** Safety flaring of gas is flaring to ensure safe operation of the facility (e.g. flaring of gas from an incident that jeopardises safe operation, blowdown gas, flare maintenance gas [purge/make-up/fuel gas]), pilot gas, gas flared due to safety-related operations such as emergency shutdown and leak tests, dry gas seals, gas containing hydrogen sulphide, including dispersant/assist gas and gas that contains high levels of VOCs).
- **Non-routine flaring:** Non-routine flaring is all flaring other than routine and safety flaring (typically intermittent and of short duration and can either be planned or unplanned). It includes flaring resulting from temporary failure of equipment that handles the gas during normal operations until its repair or replacement, temporary failure of customer facilities that prevents the receipt of gas, start-up, scheduled preventative maintenance and inspections, process upsets, reservoir/well maintenance activities and well testing/clean-up).

The flaring volume is impacted by the availability, reliability, and efficiency of the compressors. During compressor outages, flaring may occur because of gas lift instability leading to slugging in the production flowlines. Slugging can result in temporarily exceeding the gas compressor capacity and flaring is required to manage the pressure cycles. Performance degradation of the compressors can similarly lead to flaring as compressor capacity is reduced.

To minimise flaring associated with compressor service outages and performance deterioration, the condition of the compressors and its utility systems are monitored by both Solar (compressor and gas turbine vendor) and Woodside. Solar provides a condition monitoring service of the gas turbine generators and high-pressure compressors and will inform if the predicted performance deviates too much from observed. During maintenance activities, gas turbines and compressors undergo an internal inspection via borescope to confirm the condition of the equipment. Scheduled water washes are also typically performed to ensure optimum efficiency and power capacity of the turbines.

The compressor and gas turbine utility systems are monitored to optimise operating conditions and performance efficiency. This includes fuel and seal gas filtration to minimise wear and tear and lube oil varnish removal which could otherwise lead to increased friction and increased maintenance duration.

In 2024, the first and second stage compressor suction scrubbers were modified to minimise liquid carry over which can lead to a buildup of corrosion products on the compressor impellers. As a result of these activities, the compressor performance and availability has been improved and running time between maintenance activities increased from 30,000 to 40,000 hours.

FY23 provides the most complete and representative picture of annual flaring from operations. In FY23, 5,797 tonnes of gas were flared, generating GHG emissions of approximately 21,790 tCO₂e (Table 6-11). Flaring volumes can vary with production rates and non-routine activities including any outages and shutdowns, as can be seen in Table 6-11. Estimated annual emissions from flaring from the Pyrenees Facility are summarised in Table 6-13 and based on realised values reported for FY23. These annual flaring values are expected to be achieved annually over the next five-year period, and until EOFL. The values have been calculated using the NGER measurement determination and NPI emission estimation techniques and include water vapour, inert gas and hydrocarbon gas. Under normal and continuous operations flaring is expected to vary, and it is anticipated that safety flaring would contribute approximately 3,500 to 5,000 tonnes of gas per year of the total estimated 5,797 tonnes. In FY23 ~66% of flaring was

reported as safety flaring and ~34% of flaring was reported as non-routine flaring. Noting that this changes year on year, controls are focused on reducing and minimising total flaring.

Table 6-13: Estimated annual emissions from flaring onboard the Pyrenees Venture FPSO

Component	Estimated Annual Emissions ¹
Flared gas (t)	5,797
CO ₂ (t)	16,231
Methane (tCO ₂ e)	5,408
N ₂ O (tCO ₂ e)	151
Total tCO₂e	21,790
Oxides of nitrogen (t)	9
Carbon monoxide (t)	50

¹ Estimate only from historical performance from FY23. Future performance may differ due to variety of reasons such as upset conditions, change in field production, etc.

Fugitive emissions

Fugitive emissions can occur from pressurised equipment, and are inherent in design, required for infrequent operational activities, or can be caused by unintentional equipment leaks. Sources can include valves, flanges, pump seals, compressor seals, relief valves, vents, sampling connections, process drains, open-ended lines, casing, tanks and other potential leakage sources from pressurised equipment.

Discrete, relatively small volumes of packed gases and charged systems including refrigerant gases are used across the Pyrenees Venture FPSO and vessels, which have potential for small volume leaks (typically less than 100 kg per isolatable inventory). Such gases are used in the heating, ventilation and air conditioning and refrigerant systems onboard the Pyrenees Venture FPSO and vessels.

As much of the safe operation of the Pyrenees Facility relies on the effective containment of hydrocarbons, the volumes of routine and non-routine fugitive emissions are considered small. Fugitive emissions are, by their nature, difficult to quantify and are estimated by application of methods under the *National Greenhouse and Energy Reporting (Measurement) Determination*. Using this estimation technique, the Pyrenees Venture FPSO reported 9,167 tCO₂e lost through fugitive emissions during FY23 and this remains the expected level of fugitive emissions for the EP period (next five years).

There is a risk of venting of process hydrocarbons via the flare system. Flaring systems are maintained to effectively combust hydrocarbons as a critical component for the safe operation of the Pyrenees Facility. There is a risk that the flares could be extinguished (for example, during high winds during a tropical cyclone) or unavailable (such as following a major shutdown prior to system ramp-up). In this event the hydrocarbon gas discharged via the flare system may initially not be combusted during the period required to purge the flare system and re-establish flare ignition. This may result in the short-term (minutes) low-rate release of uncombusted hydrocarbon gas to the atmosphere. This has not happened at the facility and controls are in place to prevent and limit the volume, if this were to occur.

Emissions Reduction Opportunities at Pyrenees

Pyrenees Facility operations applies a structured process to identify and implement initiatives that aim to improve production efficiency and reduce air emissions (Section 7.5.4). The focus is on maintaining high baseline reliability, which directly supports operational efficiency and contributes to emissions reductions e.g. through reduced flaring. These efficiencies are incorporated into both existing emission performance reporting and future emissions estimates.

Operational workflows including proactive maintenance, performance monitoring and vulnerability management, are implemented to enhance reliability and, where applicable, reduce emissions. Maintenance and operational planning consider opportunities to reduce emissions such as minimising blowdown requirements by aligning work scopes with scheduled shutdowns and optimising maintenance of rotating equipment.

This approach ensures focus on efficiency and reliability improvements which contribute to ongoing emissions reduction outcomes. These processes will be formally incorporated into and align with the Woodside Production Optimisation and Opportunity Management Framework (POOMP) in 2027.

Indirect emissions

Emissions from vessels and helicopters

GHG and atmospheric emissions are generated by vessels and helicopters supporting Pyrenees activities. Vessel emissions include those from internal combustion engines and fugitives. Atmospheric and GHG emissions from support vessels vary depending on the nature of activities being undertaken; for example, travelling or 'steaming' to a destination at low speed uses less fuel and generates lower atmospheric and GHG emissions than high speed steaming. Emissions generated during safety related vessel standby activities, holding station using DP during loading and unloading of materials to the facility or undertaking subsea IMMR work also vary.

Expected annual emissions for vessel and helicopter activities have been estimated to be:

- 4,000 tCO₂e for support vessels in 2023, which is considered a high support vessel activity year
- 300 tCO₂e for helicopters, based on helicopter flights in 2022, considered a typical helicopter use year.

Indirect emissions relating to support vessels and helicopter operations is a small contribution to the total emissions profile of the Petroleum Activity and are not expected to vary materially for the duration of the EP.

Emissions from shipping, refining and end-use attributable to Pyrenees

Indirect emissions attributed to Pyrenees results from shipping, refining and combustion/end use of hydrocarbons. Indirect GHG emissions attributed to Pyrenees operations were estimated using historical and forecasted production rates (Table 6-14). Key influences impacting indirect GHG emissions from Pyrenees include:

- total production – indirect emissions are proportional to total production, which varies with shutdown activity, new field tiebacks or gradual reservoir decline.

The forecast direct and indirect GHG emissions are presented in Table 6-14. Forecast emissions estimates are sensitive to production rate and non-routine events, which are subject to uncertainty associated with reservoir performance and will change over the life of the facility. Indirect emissions from support vessel and helicopter operations as well as product end-use are estimated to be approximately 1.72 MtCO₂e per year, totalling up to 8.61 MtCO₂e for the duration of the EP.

Table 6-14: Forecast direct and indirect GHG emissions

Source of impact	Annual estimated emissions (MtCO ₂ e)	Total estimated emissions for EOFL ² (MtCO ₂ e)
Direct emissions		
Fuel, flaring and fugitives	0.177	1.943
Indirect emissions		
Support vessels and helicopter operations	0.004	0.047
Third party transport of products, refining and combustion ¹	1.717	18.888

¹ Source: Transport and refining based on Oil-Climate Index factors for Australia Cossack. Combustion factors aligned with United Nations' 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories. Emissions factors used are the default values as product customer's destination and use of the products are unknown.

² EOFL is predicted to be 2035, subject to reservoir performance and life extension studies. Annual emissions are expected to remain fairly consistent until EOFL.

Impact assessment

Global efforts to reduce greenhouse gas emissions in order to meet climate goals are changing the way the world produces and consumes energy. This energy transition is uncertain and there is a wide range of potential demand for oil, gas and new energy including in pathways consistent with limiting global temperature rise. Today, Woodside has a portfolio of oil and gas assets. We are also developing a portfolio of new energy products and lower carbon services. Across our portfolio we seek to match the pace, scale and needs of our customers as they determine their own decarbonisation pathways.

Air quality

Facility and vessel routine and non-routine emissions, predominantly from fuel combustion and flaring, have the potential to result in localised, temporary reduction in air quality, generation of dark smoke if incomplete combustion occurs and contribution to GHG emissions. Potential impacts of emissions depend on the nature of the emissions, as well as the location and nature of the receiving environment. The quantities of atmospheric emissions generated by the Pyrenees Facility are relatively small and will, under normal circumstances, be quickly dissipated into the surrounding atmosphere.

The Operational Area is in a remote offshore location, with no expected adverse interaction with populated areas or sensitive environmental receptors associated with air emissions.

A wedge-tailed shearwater breeding BIA overlaps the Operational Area and several other threatened and migratory seabird species could occur in the Operational Area or nearby. Individual birds would be transiting the offshore area as roosting and nesting habitats occur on land. The nearest potential seabird roosting habitat, the Muiron Islands, lies approximately 19 km south-east of the Operational Area. Given the highly dispersed nature of facility air emissions, no adverse air quality impacts to birds are anticipated due to air emissions.

Potential impacts are expected to be short-term and limited to the airshed local to the Operational Area. Air emission impacts are not expected to have direct or cumulative impacts on sensitive environmental receptors, or above *National Environmental Protection (Ambient Air Quality) Measures* and are expected to disperse well before reaching the nearest populated area (Exmouth).

The flare and potential dark smoke resulting from incomplete combustion may impact visual amenity, however, this is unlikely to be the case at the Muiron Islands and the North West Cape located 10 and 27 km from the FPSO, respectively. It has been reported that flaring during upset conditions may be visible on the horizon from shore during night-time; however, upset conditions are uncommon and dark smoke from any incomplete combustion is not expected to be visible at these distances at any time. Impacts to residential communities in Exmouth 45 km away from flaring or any dark smoke are not considered credible. Impacts to tourism activities from night-time observations of flaring on the horizon at the North West Cape is considered negligible.

GHG emissions

Climate change is caused by the net global concentration of greenhouse gases in the atmosphere. Human-caused climate change is a consequence of more than a century of net GHG emissions from energy use, land use change, lifestyle patterns of consumption, and production (IPCC, 2023). The IPCC has stated that observed increases in GHG concentrations since 1750 leading to climate change are unequivocally caused by human activities and that there is a near linear relationship between cumulative anthropogenic CO₂ emissions and the global warming they cause (IPCC, 2023).

The energy transition precise shape and pace is expected to vary across countries because they have different starting points, development requirements, resources and capabilities. However, the scale of the transition is clearer, it will take many trillions of dollars, invested over decades.

Woodside is working to diversify its portfolio by adding new lower-carbon products and services alongside our existing products, where we believe we have a competitive advantage to supply them successfully through the energy transition. However, demand in petrochemical and heavy transport is likely to be resilient for longer. Woodside sees a demand for oil expected across a range of pathways through the energy transition. The Pyrenees Facility will provide an incremental volume of hydrocarbons to Australian and international markets during its estimated remaining field life. Woodside sees a role for oil from the Pyrenees Facility to meet customer demand.

Climate change impacts upon Australian receptors cannot be directly causally linked to any one activity or one project, including the operation of the Pyrenees Facility, as they are instead the result of global GHG emissions, minus global GHG sinks, that have accumulated in the atmosphere since the industrial revolution started. The accumulation of greenhouse gas emissions in the atmosphere is, in turn, influenced by global energy demand and the composition of the global energy mix. The following contextual evaluation is provided. This contextual evaluation assessment considers the potential impacts of climate change on sensitive receptors, including MNES within Australian jurisdictions.

GHG emissions – global and Australian context

Climate science is a rapidly evolving field in which new observations continue to deepen understanding of the current and potential impacts of global warming, and the possible pathways for mitigation and adaptation.

The IPCC is the United Nations body for assessing the science related to climate change and finalised the Sixth Assessment Report (AR6) in 2023. This consists of three Working Group contributions and a Synthesis Report. A summary of outcomes of the working group's contributions comprises a range of matters, which among others include:

- The AR6 Working Group I report stated that it is unequivocal that there is human-induced warming. It also stated that increased atmospheric CO₂ levels, generated by human activity, are the largest driver of warming over the longer term, and that there are a range of factors, including emissions of methane, which increase warming in the short-term.
- The AR6 Working Group II report stated that human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people, beyond natural climate variability. It stated that global warming, reaching 1.5°C in the near-term, would cause unavoidable increases in multiple climate hazards and present multiple risks to ecosystems and humans. The report noted that societal choices and actions implemented in the next decade will determine the extent to which medium- and long-term pathways will deliver climate resilient development.
- The AR6 Working Group III report provided an updated global assessment of climate change mitigation progress and pledges and examined the sources of global emissions. It explained developments in emissions reduction and mitigation efforts and assessed the impact of national climate pledges in relation to long-term emissions goals. More than 2,000 quantitative emissions pathways were submitted to the IPCC, of which 1,202 scenarios included sufficient information for assessing the associated warming. The report found that there are many pathways in the literature that likely limit global warming to 2°C with no overshoot, or to 1.5°C with limited overshoot. These variations occur because, while climate science is able to calculate a 'carbon budget' of net emissions before any particular temperature outcome is reached, the allocation of this budget between different human activities requires additional judgements about for example technology, economics, consumer preferences and policy choices.

- The AR6 Working Group I report stated that climate change is a global phenomenon, but manifests differently in different regions (IPCC, 2021). IPCC projections for climate change in Australia from the AR6 Working Group II report include:
 - further climate change is inevitable, with the rate and magnitude largely dependent on the emission pathway (very high confidence)³⁷
 - ongoing warming is projected, with more hot days and fewer cold days (very high confidence)
 - further sea level rise, ocean warming, and ocean acidification are projected (very high confidence)
 - less winter and spring rainfall is projected in southern Australia, with more winter rainfall in Tasmania, less autumn rainfall in southwestern Victoria and less summer rainfall in western Tasmania (medium confidence), with uncertain rainfall changes in northern Australia.
 - more extreme fire weather is projected in southern and eastern Australia (high confidence)
 - increased drought frequency is projected for southern and eastern Australia (medium confidence)
 - increased heavy rainfall intensity is projected, with fewer tropical cyclones and a greater proportion of severe cyclones (medium confidence) (Lawrence et al. 2022).
- The AR6 Working Group II report identified nine key climate risks for the Australasian region:
 - loss and degradation of coral reefs and associated biodiversity and ecosystem service values in Australia due to ocean warming and marine heatwaves (very high confidence)
 - loss of alpine biodiversity in Australia due to less snow (high confidence)
 - transition or collapse of alpine ash, snowgum woodland, pencil pine and northern jarrah forests in southern Australia due to hotter and drier conditions with more fires (high confidence)
 - loss of kelp forests in southern Australia due to ocean warming, marine heatwaves, and overgrazing by climate-driven range extensions of herbivore fish and urchins (high confidence)
 - loss of natural and human systems in low-lying coastal areas due to sea level rise (high confidence)
 - disruption and decline in agricultural production and increased stress in rural communities in south-western, southern and eastern mainland Australia due to hotter and drier conditions (high confidence)
 - increase in heat-related mortality and morbidity for people and wildlife in Australia due to heatwaves (high confidence)
 - cascading, compounding and aggregate impacts on cities, settlements, infrastructure, supply-chains and services due to wildfires, floods, droughts, heatwaves, storms and sea level rise (high confidence)
 - inability of institutions and governance systems to manage climate risks (high confidence) (Lawrence et al., 2022).

An earlier report by Australia's Biodiversity and Climate Change Advisory Group summarised the potential impacts of climate change to marine and terrestrial species, habitats and ecosystems across Australia (Steffen et al., 2009). The 2009 report identified examples of observed changes in Australia's biota that were considered consistent with the emerging climate change 'signal', as genetic constitution, geographic ranges, life cycles, populations, ecotonal boundaries, ecosystems, and disturbance regimes (Steffen et al., 2009). The report also stated:

- *"Biodiversity is one of the most vulnerable sectors to climate change".*
- *"Australia's biodiversity is not distributed evenly over the continent but is clustered in a small number of hotspots with exceptionally rich biodiversity", and that these "include the Great Barrier Reef, south-west Western Australia, the Australian Alps, the Queensland Wet Tropics and the Kakadu wetlands".*

Further, it was stated that *"many of the most important impacts of climate change on biodiversity will be the indirect ones at the community and ecosystem levels, together with the interactive effects with existing stressors"* (Steffen et al., 2009). Future climate change (e.g. increased temperature and decreased, but more variable, rainfall) has the potential to have a range of impacts on ecological factors and threaten biodiversity in the Australian mediterranean ecosystem (Commonwealth Scientific and Industrial Research Organisation (CSIRO), 2017).

Extensive modelling and monitoring studies over the last twenty years provide considerable evidence that global climate change is already affecting and will continue to affect species (Hoegh-Guldberg et al., 2018) however these impacts are likely to be highly species-dependent and spatially variable. The most frequently observed and cited ecological responses to climate change include species distributions shifting towards the poles, upwards in elevation and shifts in phenology (earlier and later autumn life-history events) (Dunlop et al., 2012). Climate change may not only change species distribution patterns but also life-history traits such as migration patterns, reproductive seasonality and sex ratios (Steffen et al., 2009).

Impacts of climate change such as altering temperature, rainfall patterns and fire regimes, are likely to lead to changes in vegetation structure across all terrestrial ecosystems within Australia (Dunlop et al., 2012; Steffen et al., 2009). Increases in fire regimes will impact Australian ecosystems altering composition structure, habitat

³⁷ A level of confidence is expressed using five qualifiers: very low, low, medium, high, and very high. For a given evidence and agreement statement, different confidence levels can be assigned, but increasing levels of evidence and degrees of agreement are correlated with increasing confidence (Lawrence et al., 2022).

heterogeneity and ecosystem processes. Changes in climate variability, as well as averages, could also be important drivers of altered species interactions, both endemic and invasive species (Dunlop et al., 2012). Climate change could result in significant ecosystem shifts, as well as alterations to species ranges and abundances within those ecosystems (Hoegh-Guldberg et al., 2018).

The 'loss of climatic habitat caused by anthropogenic emissions of greenhouse gases' has been listed as a key threatening process under the EPBC Act (DCCEEW, 2021). The threatening process consists of reductions in the bioclimatic range within which a given species or ecological community exists due to emissions induced by human activities of greenhouse gases (DCCEEW, 2021). The process is considered to have a continental distribution, including both terrestrial and marine areas. Ecosystems in which the process occurs include alpine habitats, coral reefs, wetlands and coastal ecosystems, polar communities, tropical forests, temperate forests, and arid and semi-arid environments (DCCEEW, 2021).

Coral reefs were recognised by both IPCC and the Australian Government as being at risk of climate change (Lawrence et al., 2022; DCCEEW, 2021). Protected coral reef areas in Australia include those within World Heritage listed sites, such as Ningaloo Coast, Shark Bay, or the Great Barrier Reef. Climate change has been identified as a threat for each of these World Heritage areas, with potential risks to coral reef as well as other environmental values (such as marine fauna) within these ecosystems (IUCN, 2020b; 2020c; 2020a).

Climate variability and change have been identified as threats to some EPBC Act protected species, including marine turtles, whales, seabirds and migratory shorebirds:

- The Recovery Plan for Marine Turtles in Australia (Commonwealth of Australia, 2017) states that "*climate change is of particular concern to marine turtles because it is likely to have impacts across their entire range and at all life stages. Climate change is expected to cause changes in dispersal patterns, food webs, species range, primary sex ratios, habitat availability, reproductive success and survivorship*".
- The Conservation Management Plan for the Blue Whale (Commonwealth of Australia, 2015a) states that "*climate change is expected to cause changes in migratory timing and destinations, population range, breeding schedule, reproductive success and survival of baleen whales, including blue whale species and subspecies*".
- The Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2022b) states that "*consequences to seabirds could include negative impacts from an increase in extreme weather events, reduced or changed prey abundance and distribution, and decrease in nesting habitat*".
- the Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015) states that "*such changes have the potential to affect migratory shorebirds and their habitats by reducing the extent of coastal and inland wetlands or through a poleward shift in the range of many species*".

The North-west Marine Parks Network Management Plan 2018 (DNP, 2018) identifies climate change as a pressure that may impact marine park values. The management plan states that "*the impacts of climate change on the marine environment are complex and may include changes in sea temperature, sea level, ocean acidification, sea currents, increased storm frequency and intensity, species range extensions or local extinctions, all of which have the potential to impact on marine park values*" (DNP, 2018).

Within the Marine Bioregional Plan for the NWMR (DSEWPac, 2012a), pressures related to climate change are assessed as 'of potential concern' for species of marine turtle, inshore dolphins, sawfish, sea snakes, whale shark, dugong, and seabird and shorebird, as well as the KEFs and shipwrecks known to occur in the NWMR.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
Vessels compliant with Marine Order 97 (Marine pollution prevention – air pollution) and International Air Pollution Prevention certification.	F: Yes. CS: Minimal cost. Standard practice.	Marine Order 97 is required under Australian regulations; implementation is standard practice for commercial vessels as applicable to vessel size, type and class.	Control based on legislative requirements – must be adopted.	Yes C 6.1
NGER Scheme and NPI reporting – estimation of	F: Yes.	Control based on legislative requirements to provide the national	Control based on legislative	Yes C 6.2

³⁸ Qualitative measure.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
GHG, energy and criteria pollutants.	CS: Minimal cost. Standard practice.	reporting framework for the reporting and dissemination of information related to emissions, hazardous wastes, greenhouse gas emissions, greenhouse gas projects, energy consumption and energy production to meet the objectives and desired outcomes of the legislation(s) such as: - the maintenance and improvement of air and water quality, minimisation of environmental impacts associated with hazardous wastes; and an improvement in the sustainable use of resources - act as the single framework to inform policy, meet reporting requirements, avoid duplication, and to ensure that facility net GHG emissions are managed within applicable baselines.	requirements – must be adopted.	
Apply for and manage net direct and indirect GHG emissions to within the relevant baseline under the <i>National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015</i> .	F: Yes. CS: Minimal cost. Standard practice.	Control based on legislative requirement utilising the national reporting framework for the reporting of information related to GHG emissions. The Safeguard Mechanism requires operators to offset carbon emissions in excess of the relevant baseline using appropriate credit units.	Control based on legislative requirements – must be adopted.	Yes C 6.3
Good practice				
Contracting strategy and evaluation for hire of support vessels includes consideration of vessel emissions parameters and low carbon/alternate fuels.	F: Yes. CS: Fuel cost over the five year contract is considered in the evaluation of responses, allowing for competitive consideration of low carbon alternatives.	Minimises costs and emissions through eco-efficiency approach recognising cost of fuel and carbon emissions over the contract term.	Control effectively allocates a cost to emissions to recognise that higher emitting fuel sources with other lower operating costs do not represent overall best value.	Yes C 6.4

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
Implement relevant methane management at Pyrenees.	F: Yes CS: Some cost associated with implementation of commitments. Can be managed by proving technology application and applying where appropriate to Pyrenees.	Methane reduction activities are aligned with environment, social and governance expectations, and Woodside's approach to methane emissions management, including and consistent with requirements of the Oil and Gas Methane Partnership (OGMP) 2.0 and Near-Zero, consistent with industry recognised practice. Reduction of methane fugitives reduces facility GHG emissions with high short term global warming potential. Methane management practices to include: - Pyrenees methane inventory developed by 2025 to identify, evaluate methane sources and current OGMP framework. This framework requires reduction priority according to the materiality of the emissions across Woodside's portfolio of methane emissions. - Safety-driven leak detection and repair – start-up leaks checks reduce methane emissions. - Operational gas detection fixed and mobile, to identify methane sources. - Annual methane leak survey implemented in 2026 and results included in Pyrenees Venture FPSO inventory. - Routine annual facility methane survey at Pyrenees Venture FPSO commencing in 2027 to verify the completeness of methane sources identified in the methane inventory as	Control is a company requirement – must be adopted.	Yes C 6.5

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
		per OGMP framework. Evaluate methane emissions identified in inventory and put in place actions to remediate sources where practicable.		
Forecast, measure, monitor and/or estimate facility fuel and flare emissions (in accordance with NGERS/NPI) to inform optimisation management practices and minimise environmental impact of emissions.	F: Yes. CS: Moderate cost. Standard practice.	Minimises environmental impact of emissions through planning, ongoing review, governance and optimisation. It combines with good operating practice to maximise production, reduce fuel gas use and emissions to manage cost, which reduces emissions (e.g. cleaner production), optimising emissions from the Petroleum Activity. Annual fuel and flare target setting followed by tracking enables review of performance, investigation of trends and insights to improve overall emissions reductions. Emissions reductions opportunities and workshops also identify further opportunities to reduce emissions. A new performance standard for environmental emissions monitoring equipment will enhance compliance assurance and support risk reduction. It outlines how environmental releases and emissions will be detected and monitored to meet reporting requirements. This includes monitoring of flared and fuel gas, maintaining functionality of key systems such as the flare re-ignition panel, and ensuring metering equipment is maintained.	Benefits outweigh cost/sacrifice.	Yes C 6.6

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
Report on an emissions intensity target for Pyrenees crude.	F: Yes. CS: Additional reporting burden without providing improved environmental outcome.	Woodside already reports Scope 1 and 2 gross emissions intensity as a measure of production efficiency before application of offsets, and this is published annually through corporate disclosures. For the FPSO, fuel gas combustion requirements are relatively fixed to maintain safe and continuous operation. Now that the facility is operating off plateau with lower production volumes, emissions intensity has increased as a function of reduced output. As a result, emissions intensity is no longer a meaningful indicator of environmental performance. Woodside's focus is now on delivering absolute emission reductions, which more accurately reflect environmental outcomes.	Control does not improve environmental risk management relative to existing controls. Cost grossly disproportionate to benefit gained. Not adopted.	No
Woodside supports customers ³⁹ to reduce their emissions via the investment in new energy products and lower carbon services, including the progression of corporate Scope 3 targets that apply across Woodside's portfolio, including the following: Scope 3 Investment Target ⁴⁰ : Woodside has a Scope 3 investment target aiming to invest \$5 billion in new energy products and lower carbon	F: Yes. CS: Cost as reflected in target.	Supports customers to reduce their Scope 1 and 2 GHG emissions.	Proportional at a Woodside corporate level.	Yes C.7.1

³⁹ The customers for these products and services may be the same as the customers of our oil and gas business, directly substituting their energy for new products or directly abating the associated emissions. They may also be customers of the new products and services, without also being customers of oil and gas.

⁴⁰ Scope 3 targets are subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance. Potentially includes both organic and inorganic investment. Timing refers to financial investment decision, not start-up/operations.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
services (non LNG) by 2030⁴¹. Scope 3 Emissions Abatement Target⁴⁰: Woodside has a Scope 3 emissions abatement target, to indicate the potential abatement impact of these products and services upon customer Scope 1 or 2 emissions. This target is to take final investment decisions on new energy products and lower carbon services by 2030, with total abatement capacity of 5 Mtpa CO₂e.⁴²				
Through its portfolio, Woodside will work with the natural gas value chain to reduce emissions in third party systems (e.g. regasification and distribution), such as through: - the adoption and promotion of the Methane Guiding Principles - sharing knowledge of methane reduction via Australian industry forums and other companies in the natural gas value chain - advocacy for stable policy frameworks that reduce carbon emissions - annual review of the implementation and outcomes of these measures.	F: Yes. CS: Minimal cost associated with collaboration and advocacy.	Supports customers to reduce their Scope 1 and 2 GHG emissions.	Proportional at a Woodside corporate level.	Yes C 7.2
Continue to implement the Pyrenees Flare and Vent	F: Yes.	To align the Pyrenees facility processes for	Disproportionate relative to outcome	No

⁴¹ Includes pre-RFSU spend on new energy products and lower carbon services that can help our customers decarbonise by using these products and services. It is not used to fund reductions of Woodside's net equity Scope 1 and 2 emissions which are managed separately through asset decarbonisation plans.

⁴² Includes binding and non-binding opportunities in the portfolio, subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
Management Plan that includes annual tracking of emissions intensity and benchmarking against other facilities.	CS: Adds complexity without improving environmental outcomes; benchmarking data is not always comparable due to facility-specific variables.	flaring and venting with other Woodside assets, it is proposed to no longer use the Flare and Vent Management Plan. The controls will implemented through alternative processes, to achieve the same outcome. These are • C 4.3 & C 6.10 - operational procedures • C 6.6 (PS 6.6.1 & PS 6.6.3) - internal monitoring • C 6.3 & C 6.4 - compliance with regulatory requirements. Benchmarking and intensity tracking has been completed annually and has provided limited actionable insight due to variability across facility types and operating contexts. As a result, benchmarking and intensity tracking is to cease. Instead, additional new controls are proposed: • C 6.5 - methane management; and • C 6.6 (PS 6.6.2, PS 6.6.4) for flaring management.	and not considered ALARP – environmental outcomes are adequately managed through other controls; additional measures of benchmarking and intensity tracking would result in disproportionate administrative burden.	
Professional judgement – Eliminate				
Fuel for energy generation on facility is selected for lowest emissions generation where practicable: Fuel gas derived from subsea wells will be used in preference to diesel for power generation.	F: Yes, fuel gas is the primary fuel source on Pyrenees. CS: Cost effective.	Diesel substitution reduces CO ₂ emissions for a given unit of power and reduces spill risk associated with fuel bunkering activities.	Cost effective. Opportunities minimise fuel bunkering transfer risks.	Yes. C 6.7
Eliminate flaring by venting un-combusted hydrocarbons.	F: No. Routine hydrocarbon venting is not considered good industry practice; as unburnt hydrocarbons pose potential for greater environment impact	Not assessed, control not feasible.	Not assessed, control not feasible.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
	compared to combustion emissions. The ability to flare hydrocarbons is a key safety feature on the facility. Removing the ability to flare hydrocarbons may result in unacceptable safety risks on the Pyrenees Facility. CS: Not assessed, control not feasible.			
When gas production exceeds fuel gas demand, surplus gas will be re-injected during routine operations and therefore reducing flaring of surplus gas during routine production operations.	F: Yes. CS: Minimal cost.	Minimises emissions from flaring and reduces any additional impacts attributed to flaring (e.g. lighting).	Control based on Woodside requirements, is feasible, standard practice with minimal cost. Benefits outweigh any cost/sacrifice.	Yes C 4.3
When surplus gas is available under the Macedon back-flow arrangement, gas intake will be reduced to avoid excess supply and minimise the potential for flaring.	F: Yes. CS: Minimal cost.	Balancing gas demand and availability maximises efficiency and reduces the volume of gas needed from the reservoir, thereby reducing GHG emissions and saving gas volumes for future.	Control based on Woodside requirements, is feasible, standard practice with minimal cost. Benefits outweigh any cost/sacrifice.	Yes C 6.8
Professional judgement – Substitute				
No additional controls identified.				
Professional judgement – Engineered solution				
Maintain flare to maximise efficiency of combustion and minimise venting, incomplete combustion waste products and smoke emissions.	F: Yes. CS: Minimal cost, Standard practice.	Flare tip integrity and ignition system functionality minimises potential for venting, incomplete combustion waste products and smoke emissions.	Control is company requirement – must be adopted.	Yes C 6.9
Maintain gas compression system to maximise reinjection of excess fuel gas.	F: Yes. CS: Standard practice.	Maintenance of gas compression system minimises unplanned flaring by helping to prevent unplanned outages of equipment.	Standard practice. Control adopted.	Yes C 6.10
Installation of flare gas recovery systems to reduce emissions entering the atmosphere from flaring.	F: Yes. CS: Significant additional cost associated with the design and installation of flare gas recovery	Small to negligible environmental benefit from reducing atmospheric emissions from flaring. The environmental benefit gained from the recovery	Given the increased safety risk and the very low, if any, environmental benefit provided when increased power generation emissions	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
	systems, including significant retrofitting of multiple stages of compression systems, coupled with associated ancillaries, valving and piping, facility modification and weight considerations. The safe addition of the required rotating equipment also poses significant production sacrifice, and potential domestic gas supply impacts due to the initial design layout and space safety constraints.	of flaring emissions would be limited to only a portion of flare system flows due to process safety constraints and flare system operation over a wide design envelope (associated with flow variations). Furthermore, required retrofitting of multiple stages of compression (e.g. for LP/HP streams) would offset any environmental benefits through increased power generation emissions. The retrofitting interaction with the safety critical flare system and continued operation of gas compression would also increase facility safety risks.	are taken into consideration, the installation of flare gas recovery systems is considered grossly disproportionate to the environmental benefit it would provide.	
Redesign facility to redirect all non-safety flaring streams to reinject the gas.	F: Yes CS: Significant additional cost associated with the re-design and installation of associated equipment and pipework to allow for the reinjection of streams which are currently flared.	Small environmental benefit from reducing atmospheric emissions from flaring. The current contribution from these streams are low and reinjection of excess fuel gas is in place, and the facility has redundancy (two) reinjection compressors for rejecting excess fuel gas, as well as other controls in place to minimise flaring.	Given the small environmental benefit, the significant cost in re-designing and installing associated equipment and pipework, and the other controls already in place to minimise flaring, it is grossly disproportionate to the environmental benefit that it would provide.	No
Maintaining closed circuit television monitoring systems to prevent/respond to unplanned venting.	F: Yes. CS: Increase in cost to maintain high reliability/availability of system, which is not necessary given facility is crewed and panel operator can see flare from operator panel.	Closed circuit television provides very little to no benefit given facility is crewed and superior controls are in place to monitor the flare and unplanned venting. Closed circuit television may have a benefit for an uncrewed facility but has little to no benefit for a crewed facility such as Pyrenees.	Cost/sacrifice is grossly disproportionate to benefit gained.	No

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ³⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
Discussion of ALARP Atmospheric emissions Given the adopted controls appropriate to manage the impacts of atmospheric emissions. As no reasonable additional/alternative controls were identified that would further reduce the impacts without grossly disproportionate sacrifice, the impacts and risks are considered ALARP. GHG emissions Risk-based analysis Application of Woodside's PetDW risk management procedures and other PetDW procedures reduces GHG emissions risk to ALARP. This includes a system of continual review and improvement of key emissions sources from the Pyrenees Venture FPSO. Societal values Consultation was undertaken for this program to identify the views and concerns of relevant stakeholders, as described in Section 5. No specific concerns around air emissions, resulting in changes to air quality and greenhouse gas emissions, were identified through this process. ALARP statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type (i.e. Decision type A and B for direct and indirect emissions respectively), Woodside considers the adopted controls appropriate to manage the impacts from GHG emissions from the Pyrenees Facility and indirect emissions sources that Woodside can practicably influence, including support vessels, during the five year term of this EP. The adopted controls meet legislative requirements, including: • Marine Order 97 for support vessels • NGER Scheme and NPI reporting for direct emissions attributed to the Pyrenees Venture FPSO • <i>National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015.</i> Woodside has elected to focus emissions performance reporting in this EP on absolute emissions reductions to inform environmental outcomes, and that are more directly aligned with national climate policy targets and the company's own decarbonisation objectives. While a specific emissions intensity target is no longer included in this EP, Woodside continues to monitor and report gross Scope 1 and 2 emissions intensity through its corporate sustainability disclosures and under the Safeguard Mechanism framework. The adopted controls include flare minimisation, energy efficiency improvements, equipment optimisation, and fugitive emissions management. These have been selected based on their technical feasibility and proven ability to reduce emissions. These controls are quantified and monitored through Woodside's internal emissions management systems, and performance is reviewed regularly in accordance with PetDW continual improvement processes. Woodside considers that the adopted approach achieves an equivalent or better level of environmental performance than inclusion of a standalone emissions intensity target or emission intensity tracking and benchmarking. No further controls were identified that would reduce GHG emissions without grossly disproportionate cost or impact to operations. Therefore, GHG emissions impacts and risks are considered to be reduced to ALARP.				

Demonstration of acceptability
Acceptability statement: atmospheric emissions Given the adopted controls, atmospheric emissions represent a negligible impact that is unlikely to result in greater than isolated impacts within close proximity of the Operational Area. The adopted controls are considered good oil-field practice/industry best practice and meet requirements of Australian Marine Orders and National Pollutant Inventory reporting. The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of atmospheric emissions from the Pyrenees Facility to a level that is broadly acceptable. Acceptability statement: GHG emissions To assess and determine that impacts from GHG emissions will be of an acceptable level, Woodside considered corporate commitments, principles of ESD, company values and societal values.

Principles of ecologically sustainable development

Giving considerations to economic development that safeguards the welfare of future generations, Pyrenees is considered to align with the following core objectives of ESD by:

- committing to management and mitigation measures for GHG emissions within operational control of the facility, given the uncertainty about future climate change trajectories
- committing to mitigation measures for indirect GHG emissions that are controlled or influenced by operator and connected to the operations of the Pyrenees Facility
- continuing to provide fuel for global markets and pursue the development of lower carbon energy sources with reference to the United Nations Sustainable Development Goal 7, Affordable and Clean Energy.

Internal context

The Petroleum Activity is consistent with Woodside corporate policies, culture, processes, standards, structure and systems as outlined in the Demonstration of ALARP and EPOs, including:

- Woodside Health, Safety, Environment Policy
- Woodside PetDW Risk Management Policy
- Woodside Climate Policy (Appendix K).

Woodside's climate strategy

The management of emissions from the Pyrenees Facility is aligned with Woodside's climate strategy. Woodside's climate strategy is to thrive through the energy transition with a low-cost and lower-carbon, profitable, resilient and diversified portfolio, which contains two key elements:

- Reduce our net equity Scope 1 and 2 GHG emissions:
 - Woodside is targeting a reduction of net equity Scope 1 and 2 GHG emissions of 15% by 2025 and 30% by 2030, with an aspiration of net zero by 2050 or sooner.⁴³
 - Reducing our net equity Scope 1 and 2 GHG emissions is supported by three levers: avoiding emissions in design, reducing emissions in operations, and offsetting the remainder through our portfolio of carbon credits.
- Invest in products and services for the energy transition.

Woodside has two Scope 3 targets⁴⁴ to help reduce customer⁴⁵ emissions:

- Invest in new energy products and lower carbon services by 2030 of \$5 billion.⁴⁶
- Take FID on new energy products and lower carbon services by 2030 with total abatement capacity of 5 Mtpa CO₂e.⁴⁷

Progress against targets is reported annually in Woodside's annual disclosures. Reduction targets are not set for individual assets, including Pyrenees, but are assessed corporately.

External context

GHG emissions are a global concern as such Woodside has undertaken an impact assessment of GHG associated with the Pyrenees operations and identified key measures to address this issue.

The global consensus on climate change led to the implementation of the Paris Agreement. The aim of the Paris Agreement, as stated in the Article 2.1(a), is to hold the increase in global average temperature to well below 2°C above pre-industrial levels. The Agreement also aims to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change.

Paris Agreement text extract⁴⁸:

"Article 2

1. This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:

(a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change".

This was reaffirmed in December 2023 in the Conference of Parties 28 decision text on the first global stocktake.⁴⁹ The text further recognised that the transition away from fossil fuels in energy systems is to be done in a just, orderly and equitable manner accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science.⁵⁰ It also recognises that transitional fuels can play a role in facilitating the energy transition while ensuring energy security⁵¹.

The Paris Agreement establishes a framework where countries make nationally determined contributions to manage and reduce their own emissions.

Australia has ratified the Paris Agreement and has set a target to reduce emissions by 43% below 2005 levels by 2030 and to reach net-zero emissions by 2050. Australia's emissions projections under a 'with additional measures' scenario is projected to be 43% below 2005 levels by 2030 and to reach net zero emissions by 2050 (Department of Industry, Science, Energy and Resources, 2022).

Woodside considers that a stable energy transition will be one in which energy is affordable and reliable, as well as lower carbon. The Pyrenees Venture FPSO Facility will provide an incremental volume of hydrocarbons to international markets during its estimated remaining field life. Woodside considers that this development is aligned with their goals for supporting the energy transition and is compatible with the Paris Agreement goal to limit global warming to below 2°C.

Woodside's support of customers to reduce their GHG emission through our corporate Scope 3 targets focus on the natural gas value chain as this is an area we believe we have greatest influence with our customers. Additionally, our global hydrogen and ammonia opportunities are intended to bring lower carbon new energy alternatives, which our customers may use to displace oil (e.g. marine fuel).

Through these corporate Scope 3 targets, Woodside is implementing programs at a corporate level to manage indirect emissions associated with customer use of oil from the Pyrenees Facility.

Alongside our corporate scope 3 targets, Woodside also supports initiatives to reduce methane emissions. Woodside is a signatory to several global initiatives which are complementary to our corporate approach to methane emissions management, which include OGMP 2.0 (2024), Oil and Gas Climate Initiative Aiming for Zero Methane Emissions (OGCI Near-Zero) and the Methane Guiding Principles (2022), which are voluntary, international multi-stakeholder partnerships between industry and non-industry organisations. As no reasonable additional/alternative controls were identified that would further reduce the impacts without grossly disproportionate cost/sacrifice, GHG emissions from the Pyrenees Facility and indirect emissions sources that Woodside may practicably influence are considered ALARP and acceptable.

Other requirements (includes laws, polices, standards and conventions)

Legislation and other requirements considered relevant for this aspect, and a demonstration of how these requirements are met, are described below.

Requirement	Requirement demonstration
Marine Order 97: Gives effect to Annex VI of MARPOL 73/78	The requirements of Marine Order 97 are incorporated into the key control measures.
National Greenhouse and Energy Reporting Scheme: Annual GHG reporting for facilities	The requirements of NGER scheme are incorporated into the key control measures.
<i>National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015:</i> Emission intensity for reservoir carbon from new gas fields	The requirements of NGER Safeguard Mechanism are incorporated into the key control measures.
National Pollutant Inventory Reporting: Annual air pollutant reporting	The requirements of annual NPI reporting are incorporated into the key control measures.

⁴³ The net equity Scope 1 and 2 emissions reduction targets are relative to a starting base of 6.32 MtCO₂e which is representative of the gross annual average equity Scope 1 and 2 GHG emissions over 2016-2020. The starting base may be adjusted (up or down) for potential equity changes in producing or sanctioned assets with a final investment decision prior to 2021. Net equity emissions include the utilisation of carbon credits as offsets.

⁴⁴ Scope 3 targets are subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance. Potentially includes both organic and inorganic investment. Timing refers to financial investment decision, not start-up/operations.

⁴⁵ The customers for these products and services may be the same as the customers of our oil and gas business, directly substituting their energy for new products or directly abating the associated emissions. They may also be customers of the new products and services, without also being customers of oil and gas.

⁴⁶ Includes pre-ready-for-startup spend on new energy products and lower carbon services that can help our customers decarbonise by using these products and services. It is not used to fund reductions of Woodside's net equity Scope 1 and 2 emissions which are managed separately through asset decarbonisation plans.

⁴⁷ Includes binding and non-binding opportunities in the portfolio, subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance.

⁴⁸ Paris Agreement: https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf.

⁴⁹ FCCC/PA/CMA/2023L.17 (Draft decision distributed 13 December 2023) First global stocktake text extracts: https://unfccc.int/sites/default/files/resource/cma2023_L17_adv.pdf (Section I, Clause 3).

⁵⁰ FCCC/PA/CMA/2023L.17 (Draft decision distributed 13 December 2023) First global stocktake text extracts: https://unfccc.int/sites/default/files/resource/cma2023_L17_adv.pdf (Section II, Subsection A, Clause 28 (d)).

⁵¹ FCCC/PA/CMA/2023L.17 (Draft decision distributed 13 December 2023) First global stocktake text extracts: https://unfccc.int/sites/default/files/resource/cma2023_L17_adv.pdf (Section II, Subsection A, Clause 29).

Conservation Management Plan for the Blue Whale 2015–2025: Management action A3.1: Continue to meet Australia's international commitments to reduce greenhouse gas emissions and regulate the krill fishery in Antarctica Conservation Advice <i>Balaenoptera borealis</i> Sei Whale: Conservation action: Continue to meet Australia's international commitments to reduce greenhouse gas emissions and regulate the krill fishery in Antarctica Conservation Advice <i>Balaenoptera physalus</i> Fin Whale: Conservation action: Continue to meet Australia's international commitments to reduce greenhouse gas emissions and regulate the krill fishery in Antarctica National Recovery Plan for the Southern Right Whale: Action area A3.1: Continue to meet Australia's international commitments to address causes of climate change, including greenhouse gas emissions Recovery Plan for Marine Turtles in Australia: Management action A2.1: Continue to meet Australia's international commitments to address the causes of climate change	As described above, the predicted atmospheric and GHG emissions from the Pyrenees Facility are considered de minimis, with no link to climate change impacts on Australian or International receptors. Therefore, the Pyrenees Facility is not considered to be inconsistent with the Conservation Management Plan for the Blue Whale 2015–2025 (Commonwealth of Australia, 2015a), Conservation Advice for Sei Whale (TSSC, 2015a), Conservation Advice for Fin Whale (TSSC, 2015b), National Recovery Plan for the Southern Right Whale (DCCEEW, 2024a), or the Recovery Plan for Marine Turtles in Australia (Commonwealth of Australia, 2017).
Conservation Advice <i>Rhincodon typus</i> Whale Shark: No specific strategies or actions identified Recovery Plan for the White Shark (<i>Carcharodon carcharias</i>): No specific strategies or actions identified Wildlife Conservation Plan for Seabirds: No specific strategies or actions identified Wildlife Conservation Plan for Migratory Shorebirds: No specific strategies or actions identified Marine Bioregional Plan for the North-west Marine Region: No specific strategies or actions identified North-west Marine Parks Network Management Plan: No specific zone rules identified	N/A

Acceptability statement: GHG emissions

As per Section 2.7.2 decision type B are acceptable if ALARP, demonstrated using good industry practice and RBA, if legislative requirements are met and societal concerns are accounted for and the alternative control measures are grossly disproportionate to the benefit gained. In addition, acceptability is assessed against the above criteria. Further opportunities to reduce the impacts have been investigated (refer ALARP demonstration discussion). Indirect GHG emissions associated with the Pyrenees Facility are managed to an acceptable level by meeting (where they exist) legislative requirements, industry codes and standards, applicable company requirements, and industry guidelines, and these have been adopted as key controls.

The adopted controls are considered good oil-field practice/industry best practice and are consistent with Woodside's internal requirements. The potential impacts are considered acceptable if ALARP is demonstrated. As described above, the predicted GHG emissions associated with the Pyrenees Facility are considered de minimis and as such, below the acceptable levels and will not materially or substantially contribute to Australia's net GHG emissions or net global GHG emissions levels.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
EPO 8 Minimise GHG emissions from vessels through efficient fuel usage and consideration of fuel types utilised. EPO 9 Net FPSO GHG emissions shall achieve GHG reductions under reformed Safeguard Mechanism (inclusive of legislated net zero emissions by 2050).	C 6.1 Vessels compliant with Marine Order 97 (Marine pollution prevention – air pollution) and International Air Pollution Prevention certification.	PS 6.1 Vessels compliant with Marine Orders as applicable to vessel size, type and class.	MC 6.1 Marine verification records.
	C 6.2 NGER Scheme and NPI reporting – estimation of greenhouse gas, energy and criteria pollutants.	PS 6.2 Pyrenees emissions reported annually in accordance with NGER Scheme and NPI.	MC 6.2 NGER Scheme and NPI reporting records.
	C 6.3 Apply for and manage net direct and indirect GHG emissions to within the relevant baseline under the <i>National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015</i> .	PS 6.3 Manage net direct and indirect GHG emissions to within the accepted baseline, under the <i>National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015</i> .	MC 6.3 Records demonstrate implementation.
	C 6.4 Contracting strategy and evaluation for hire of support vessels includes consideration of vessel emissions parameters and low carbon/alternative fuels.	PS 6.4 Evaluation of tenders for support vessels considers emissions parameters.	MC 6.4 Records demonstrate that emissions were considered in tender evaluations.
	C 6.5 Implement relevant methane management measures at Pyrenees.	PS 6.5 Implement relevant methane management measures, including: - Pyrenees methane inventory developed by 2025 to identify and evaluate methane sources. - Safety-driven leak detection and repair – start-up leaks checks reduce methane emissions. - Operational gas detection fixed and mobile, to identify methane sources. - Annual methane leak survey implemented in 2026 and results included in Pyrenees Venture FPSO inventory. - Routine annual facility methane survey at Pyrenees Venture FPSO commencing in	MC 6.5 Records demonstrate relevant methane management measures are identified, assessed and implemented.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
	C 6.6 Forecast, measure, monitor and/or estimate facility fuel and flare emissions (in accordance with NGER Scheme/NPI) to inform optimisation management practices and minimise environmental impact of emissions.	2027 to verify the completeness of methane sources identified in the methane inventory as per OGMP framework.	
		Evaluate methane emissions identified in inventory and put in place actions to remediate sources where practicable.	
		PS 6.6.1 Set annual targets and monitor performance of fuel gas use and flaring as described by the process in Section 7.5.4.2.	MC 6.6.1 Records demonstrate performance against annual fuel and flare targets.
		PS 6.6.2 Develop and implement an Emissions Reductions Opportunity Procedure for the Pyrenees Venture FPSO in accordance with Section 7.5.4.	MC 6.6.2 Records demonstrate a process is developed and implemented.
		PS 6.6.3 Fuel gas and flare flow meters are monitored and maintained and if unavailable, or unreliable, fuel gas and flare emissions are measured or estimated (in accordance with NGER Scheme/NPI).	MC 6.6.3 Records demonstrate fuel and flare gas meters are maintained, tested and functioning as part of annual Maintenance Plan performance review and, if unavailable or unreliable, records of measured or estimated emissions are provided.
		PS 6.6.4 Develop and implement by end Q1 2027 ⁵² a new performance standard for	MC 6.6.4.1 Performance standard developed and in place by end Q1 2027.

⁵² Until this new performance standard is implemented, the emissions monitoring equipment is being managed and maintained under existing performance standards PS 6.6.3 (fuel gas and flare flow meters), PS 6.9.1 (flare tips) and PS 6.9.2 (flare ignition systems). Once the new performance standard is implemented, it will be an addition.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
		Pyrenees Facility environmental emissions monitoring equipment which will: - provide means of detection of environmental releases, emissions, and/or as required to assure compliance monitoring and reporting equipment. - describe monitoring gas flared and fuel gas consumed. - describe function and maintenance requirement of flare re-ignition panel. E.g. Maintaining functionality of flare and fuel flow metering equipment and estimation techniques to meet applicable criterion for reporting under NGER Determination and NPI.	MC 6.6.4.2 Records demonstrate compliance with performance standard requirements commencing Q1 2027.
	C 4.3 When gas production exceeds fuel gas demand, surplus gas will be re-injected during routine operations and therefore reducing flaring of surplus gas during routine production operations.	Refer PS 4.3 See Section 6.7.3.	Refer MC 4.3 See Section 6.7.3.
	C 6.7 Fuel gas derived from subsea wells will be used in preference to diesel for power generation.	PS 6.7 Fuel gas derived from subsea wells will be used preferentially to diesel.	MC 6.7 Annual fuel consumption records demonstrate fuel gas provided the majority of the FPSO's energy demand.
	C 6.8 When surplus gas is available under the Macedon back-flow arrangement, gas intake will be reduced to avoid excess supply and minimise the potential for flaring.	PS 6.8 During routine operations, Macedon back flow will be monitored and adjusted based on facility gas demand.	MC 6.8 Records show Macedon gas flow is adjusted based on facility operations in accordance with procedures. This is part of normal surveillance routine.
	C 6.9 Maintain flare to maximise efficiency of combustion of flared gas and minimise venting,	PS 6.9.1 No degradation of HP and LP flare tips which would result in incomplete combustion.	MC 6.9 Records demonstrate flare tip inspections occurring as per Maintenance Plan.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
	incomplete combustion waste products and smoke emissions.	PS 6.9.2 Flare ignition system to be functioning.	MC 6.9 Records demonstrate inspection of flare ignition system as per Maintenance Plan.
	C 6.10 Maintain gas compression system to maximise reinjection of excess fuel gas.	PS 6.10 Compression system maintained in accordance with good industry practice.	MC 6.10 Records demonstrate maintenance undertaken in accordance with maintenance plan.
EPO 10 Woodside will support customers to reduce their GHG emissions.	C 7.1 Woodside supports customers ⁵³ to reduce their emissions via the investment in new energy products and lower carbon services, including corporate targets that apply across Woodside's portfolio including the following: Scope 3 Investment Target: ⁵⁴ - Invest \$5 billion in new energy products and lower carbon services (non-LNG) by 2030⁵⁵. Scope 3 Emissions Abatement Target: ⁵⁴ - Take final investment decisions on new energy products and lower carbon services by 2030, with total abatement capacity of 5 Mtpa CO₂e.⁵⁶	PS 7.1 Woodside will progress its Scope 3 investment and emissions targets, aligned with stated timeframes.	MC 7.1 Progress against targets reported in the relevant annual Woodside disclosures to relevant industry standards and/or requirements. This includes an estimate of abated emissions from currently sanctioned projects.

⁵³ The customers for these products and services may be the same as the customers of our oil and gas business, directly substituting their energy for new products or directly abating the associated emissions. They may also be customers of the new products and services, without also being customers of oil and gas.

⁵⁴ Scope 3 targets are subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance. Potentially includes both organic and inorganic investment. Timing refers to financial investment decision, not start-up/operations.

⁵⁵ Includes pre-RFSU spend on new energy products and lower carbon services that can help our customers decarbonise by using these products and services. It is not used to fund reductions of Woodside's net equity Scope 1 and 2 emissions which are managed separately through asset decarbonisation plans.

⁵⁶ Includes binding and non-binding opportunities in the portfolio, subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
	C 7.2 Through its portfolio, Woodside will work with the natural gas value chain to reduce emissions in third party systems (e.g. regasification and distribution).	PS 7.2 Woodside to implement the following: sharing knowledge via Australian industry forums and other companies in the natural gas value chain through: - the adoption and promotion of global methane frameworks such as the Methane Guiding Principles and Oil and Gas Decarbonisation Charter - advocacy for stable policy frameworks that reduce carbon emissions - annual review of the implementation and outcomes of these measures, this includes consideration of current or new industry forums, initiatives and natural gas value chain participants.	M 7.2 Records demonstrate that listed actions have been undertaken and are effective.

6.7.6 Routine and non-routine discharges: produced water

Context														
Pyrenees Facility – Section 3.11 Production processes – Section 3.13				Physical environment – Section 4.4 Habitats and biological communities – Section 4.5				Consultation – Section 5						
Impacts evaluation summary														
Source of impact	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Discharge of PW from the Pyrenees Venture FPSO	-	x	x	-	x	x	-	B	1 – Minor	-	-	LCS GP PJ RBA	Broadly Acceptable	EPO 11

Source of impact

PW is either formation water (derived from a water reservoir below the hydrocarbon formation) or condensed water (water vapour present within gas/condensate that condenses when brought to the surface), or a combination of both. Separation of water from reservoir fluids is not 100% effective and separated PW often contains small amounts of contaminants, including:

- organic compounds: dispersed oil, dissolved aliphatic and aromatic hydrocarbons, organic acids, phenols
- inorganic compounds: soluble salts, metals
- residual process chemicals used during production and treatment.

These contaminants vary depending on reservoir characteristics, production history, and operational processes (Table 6-15).

Table 6-15: Contaminant characterisation and variability

Contaminant	Typical range	Monitoring method
OIW	<30 mg/L under normal operations	Online analyser/manual sampling
Hydrocarbons (BTEX, polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH), total recoverable hydrocarbons (TRH))	Low ppm levels, varies with reservoir and process	End-of-pipe chemical and ecotoxicity analysis
Metals	Detectable at low concentrations (near limits of laboratory reporting or guideline values). Low risk non conservative tracers (e.g. barium, strontium) at higher concentrations and able to be traced after dilution. Vary with reservoir	End-of-pipe chemical and ecotoxicity analysis
Organic acids, phenols	Low concentrations, present in formation water	End-of-pipe chemical and ecotoxicity analysis

Process chemicals	Minor, dependent on operational use	Individual chemical assessments End-of-pipe chemical and ecotoxicity analysis
-------------------	-------------------------------------	--

PW is expected to be routinely reinjected although temporary decreases in reinjection capacity may occur, resulting in overboard discharge from the facility to the marine environment. Such discharges may occur during short term upset production conditions (non-routine) or during a once-off contingency period to enable significant repairs to the reinjection system, if required.

Routine, non-routine and contingency PW processing scenarios include:

- Current Routine Operations – Full reinjection of PW with no overboard discharge representing the primary processing scenario for the majority of the facility's operational life.
- Future Routine Operations – As the reservoir matures and water production increases, routine overboard discharge may become necessary. It is expected that the majority of PW will continue to be reinjected (>90%) with a continuous overboard stream of up to 1,589 m³/day discharged overboard from the CFU or DGF.
- Non-routine Overboard Discharge – During upset conditions, up to 9,062 m³/day of PW may be discharged overboard from the DGF and CFU or a temporary treatment skid. Such discharge will be managed to ensure the total annual discharge volume does not exceed 870,456 m³/year (approximately 5,475,000 bbl/year) and will be limited to a maximum of 10 consecutive days per event.
- Contingency Overboard Discharge – The PW reinjection system is scheduled for maintenance and repair, with work currently scheduled for completion by end August 2026. If the system becomes unavailable prior to completion of this scope, routine reinjection may not be possible, and overboard PW discharge of up to 9,062 m³/day may be required. This represents a scenario where production would continue, however at reduced rates as a control to limit volume of PW discharged overboard and associated potential impact. This scenario may last for up to 300 days but upon completion of repairs, the facility would return to routine operations with no/the majority of PW reinjected.

When the facility operates under current routine operations with no PW discharged overboard, no monitoring requirements are triggered.

Historical discharges

A summary of PW production and reinjection since FY11 is presented in Figure 6-2. Historically, approximately 95 to 100% of PW has been reinjected into the reservoir. Annual PW volumes (thousand m³ (km³)) discharged overboard from the PW discharge point and the slops discharge are presented in Figure 6-3.

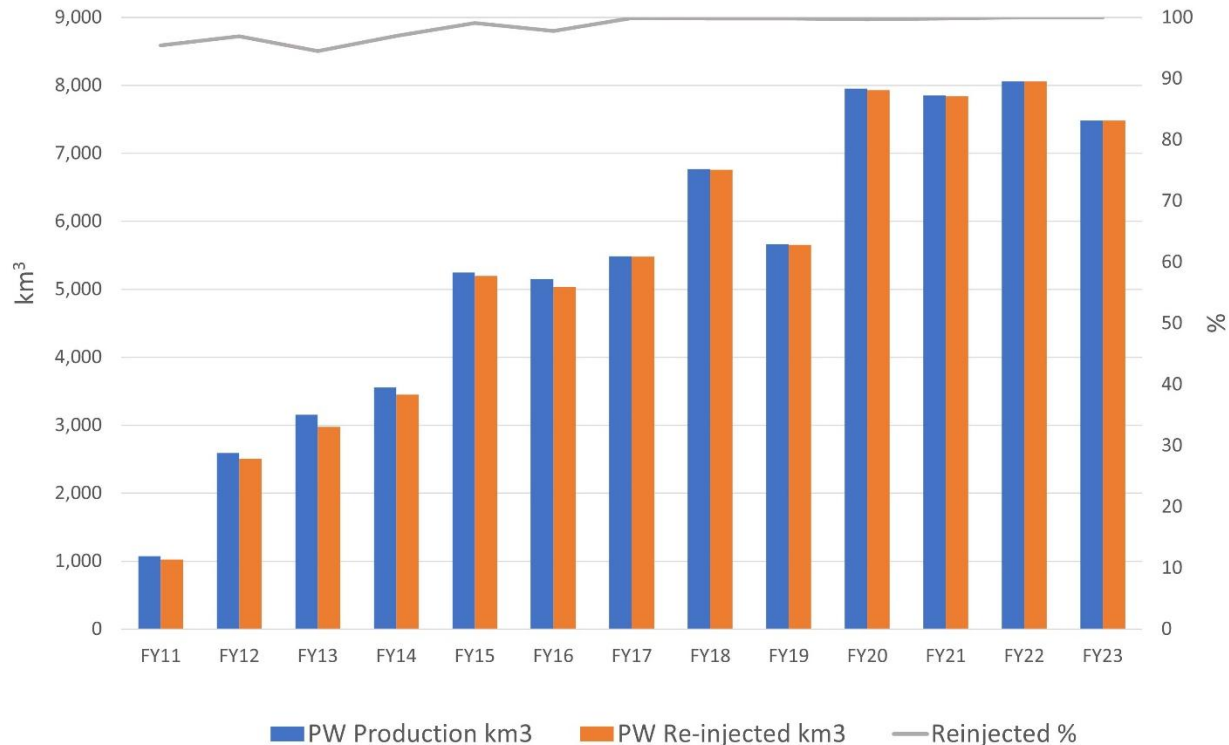


Figure 6-2: Produced water production and reinjection summary

Historically, PW discharged overboard (including slops water) has been a small proportion of total PW produced, ranging from 0% to approximately 5.5% between 2011 and 2023 (Figure 6-3). Slops water is diverted to the slops

tank for further processing and has generally been reinjected into the reservoir (100% since FY16), with only small volumes discharged overboard prior to 2016 (0% to 3.4%). Slops water is no longer discharged directly overboard but is recycled into the process and treated within the PW system.

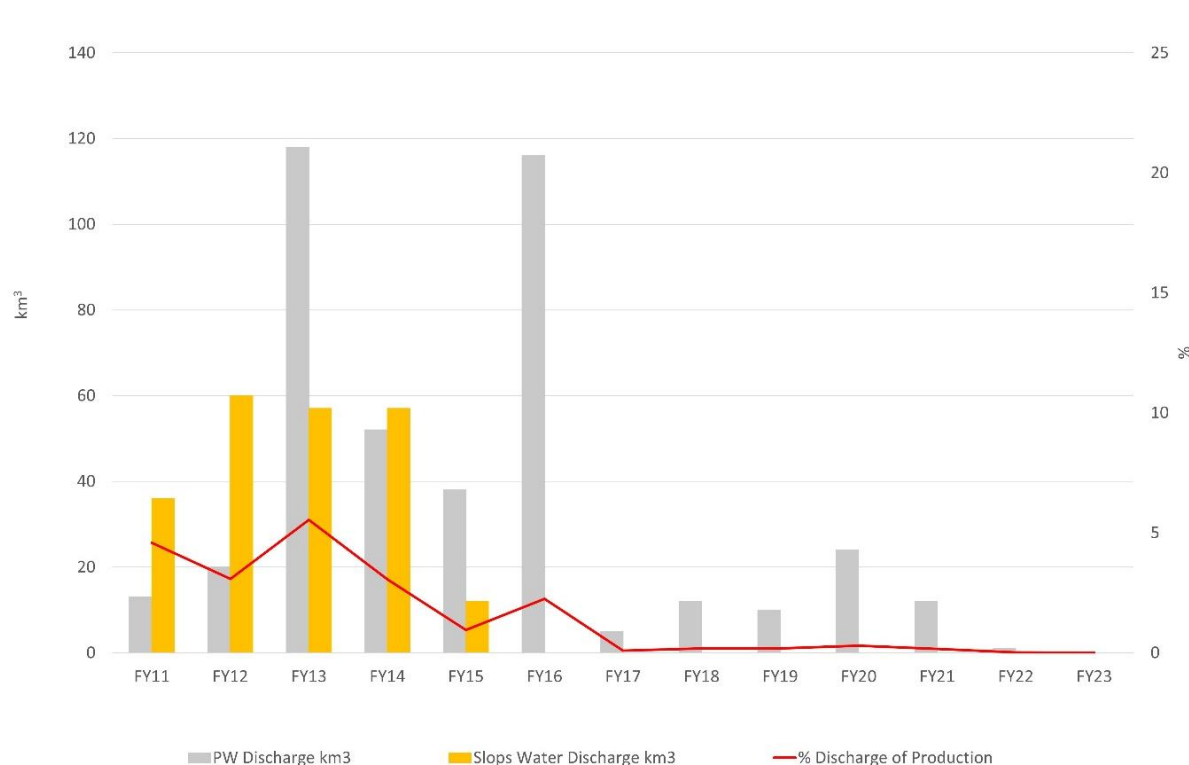


Figure 6-3: Summary of produced water and slops water discharged overboard

PW treatment

A description of the existing PW treatment system is provided in Section 3.13.5. The system is designed to remove hydrocarbons and other contaminants to ensure that PW is suitable for reinjection or controlled overboard discharge. OIW concentrations are continuously monitored using online analysers located downstream of the CFU and DGF, providing real-time feedback on treatment performance. If OIW concentrations exceed operational limits, PW is automatically diverted to the slops tanks for additional treatment before it can be reinjected or discharged after additional processing through the PW system. In instances where the online analysers are unavailable, manual sampling is undertaken to verify OIW levels and confirm compliance with operational limits.

Monitoring and management framework

This section describes the framework Woodside has developed to support the management of PW overboard discharges from offshore assets. Further details are provided in Woodside's Offshore Marine Discharge Adaptive Management Plan (OMDAMP), refer Section 7.17. The framework includes:

- operational monitoring of OIW
- monitoring of PW during operations involving overboard discharge.

Monitoring and management will be implemented in accordance with the OMDAMP, which adheres to water and sediment quality monitoring requirements consistent with the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018). Monitoring requirements include chemical assessments (metals, BTEX, PAH, phenols, organic acids, TPH and TRH) and ecotoxicity (whole effluent toxicity (WET)) testing of any overboard discharge. If extended (more than 10 days) contingency overboard discharge is required, a precipitation/sedimentation study will be completed during initial sampling to ensure sediment quality remains within the impact assessment limits.

Operational monitoring of OIW

OIW concentrations are monitored via two online analysers located downstream of the CFU and/or DGF, providing a key measure of operational performance of the PW system. If elevated OIW concentrations are detected, PW is diverted to the slops tanks for further processing. PW is then either reinjected or routed back through the PW system prior to being discharged overboard, provided it meets the OIW discharge limit. If both online OIW analysers are unavailable, manual sampling is undertaken to confirm compliance.

Online analyser data are transmitted to the distributed control system and stored in the process database for analysis and trending. The distributed control system provides control room visibility, enables manual or automated process

adjustments, and/or trigger alarms (e.g. high OIW). Results from manual sampling if online analysers are not available are reported in the daily Pyrenees Facility Production Report and the Enterprise Upstream database.

Operational monitoring of PW

The OMDAMP details monitoring, assessment against guideline values, analytical methods and actions to be taken if a trigger value is exceeded. Monitoring of PW under the OMDAMP includes annual chemical characterisation of end-of-pipe samples, WET testing to assess toxicity every three years or on commencement of contingency overboard discharge, and tracking of overboard discharge volumes to ensure PW contamination remain within modelled parameters and impact assessment limits (Table 6-16).

Trigger values are applied through a risk-based approach using multiple lines of evidence, capturing uncertainty and staging monitoring and management responses according to the degree of risk of environmental impact. Early detection of changes in discharge contaminants, volume or PW toxicity allows timely management before impacts occur. WET testing assesses potential effects on biota, while chemical characterisation identifies the toxicants driving WET results and indicates whether the discharge has changed significantly since the last WET test.

Results of chemical characterisation and WET testing are assessed against trigger values defined in the OMDAMP (refer Table 6-16), and any exceedances are investigated to determine the potential for an impact. If a trigger value has been exceeded, a single species toxicity test is conducted⁵⁷ and operational management actions will be implemented (e.g. reduce discharge volume to ensure dilutions are being achieved at the mixing zone boundary) as appropriate to reduce risk and additional WET testing may be completed, as required. If it is determined that there are potential risks of environmental impact outside the mixing zone, in situ field sampling may be initiated in accordance with the OMDAMP response actions. Monitoring will be conducted in line with the OMDAMP, applying established monitoring guidelines, sampling methods and appropriate scientific standards (e.g. requirement for WET testing) to ensure consistency and comparability of data.

Table 6-16: Monitoring parameter, trigger value and frequency

Monitoring parameter	Trigger value	Frequency
Review of continuous operational monitoring results	Increases in the average monthly OIW concentration by 5 mg/L total over six consecutive months or by 10 mg/L total over two consecutive months.	Monthly
Chemical characterisation: end-of-pipe	Results that are predicted to be higher than the 99% default guideline values (DGV) at the approved mixing zone boundary and are above the results from the earlier toxicity year ¹ .	Annually during future routine or non-routine overboard discharge operations or at initiation of contingency overboard discharge
WET testing	The 99% species protection safe dilutions derived from earlier toxicity year are not predicted to be achieved at boundary of the approved mixing zone.	Three yearly or at initiation of contingency overboard discharge
Discharge volume – future routine operations	Mean discharge volume (m ³ /day) above modelled flow rates used to define approved mixing zone based on earlier toxicity year ¹ .	Daily
Discharge volume – non-routine overboard discharge	Discharge volume (m ³ /day) above modelled flow rates used to define approved mixing zone based on updated toxicity data ¹ . This will not exceed the total annual discharge overboard volume of 870,456 m ³ /year (5,475,000 bbl/year) and for no longer than 10 consecutive days per event.	Daily
Discharge volume – contingency overboard discharge	Mean discharge volume (m ³ /day) is above modelled flow rates used to define approved mixing zone based on updated toxicity data and not to exceed 300 days of discharge.	Daily

¹ 'Earlier toxicity year' means the year in which the most recent WET test occurred.

⁵⁷ Single species testing is conducted in parallel to chemical characterisation to support further investigations (see Section 7.17).

Ecological protection level and triggers

PW dispersion modelling has established a 200 m mixing zone around the discharge point, with 99% of species predicted to be protected at the edge of the zone (RPS, 2018; 2025), as calculated using the ANZG (2018) statistical distribution method applied to direct toxicity assessment results. This ensures that the ecological and conservation values at the edge of the mixing zone are maintained, and that there is no significant environmental impact outside the approved mixing zone.

To assess the potential impact of PW overboard discharges, near field (CORMIX) and far field (CHEMMAP) coupled modelling was conducted. These models predict the distance required to achieve minimum safe dilutions under various discharge rates (RPS, 2018; 2025).

Ecotoxicity data from 2017 were used as model inputs representing the worst-case measured toxicity scenario to date. This data indicates that 139 dilutions are required to achieve the predicted no effect concentration (NOEC) (GHD, 2018). Multiple discharge scenarios were modelled including continuous PW discharge rates (1,589 m³/day, 2,000 m³/day, 5,500 m³/day and 9,062 m³/day) across different seasonal conditions to assess the movement and fate of PW, the influence of seasonal metocean conditions and potential exposure risks to environmental sensitivities.

Each replicate model simulation was conducted to encompass both neap and spring tidal cycle. This simulated duration was sufficient to demonstrate the dispersal of PW reaching equilibrium without further accumulation of contaminants within the simulation. Stochastic modelling results under worst-case contingency overboard discharge rates of 9,062 m³/day show, further, that within two days of discharge, the plume would disperse and residual contaminants would not persist beyond the mixing zone. The minimum dilution at 200 m from the outlet in any season was 239 (Figure 6-4), which is well within the predicted NOEC requirement. This output from the contingency overboard discharge simulations were used to conservatively inform the impact assessment covering all overboard discharge scenarios.

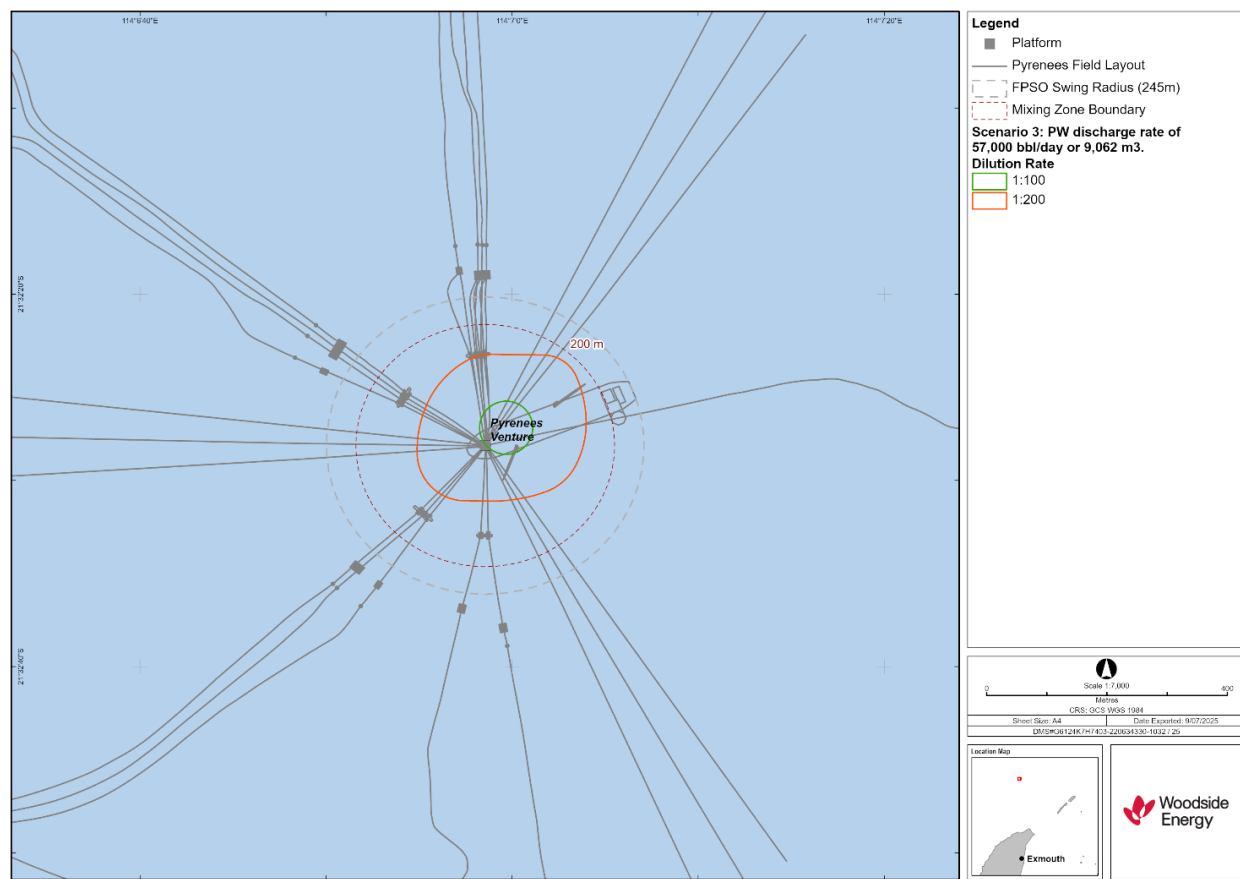


Figure 6-4: Produced water dilution contours at the 9,062 m³/day continuous discharge rate (contingency operations)

Plume tracking and verification of modelled dilutions

Water quality monitoring surveys around the Pyrenees Venture FPSO were conducted annually between 2011 and 2017 and again in 2020 and 2021 resulting in 129 historic water quality samples (Advisian, 2022). The monitoring survey design included fixed distance sites within, at and beyond the mixing zone boundary as well as reference sites. A gradient design was included into some of the sampling campaigns. Field sampling of water quality in 2016 and 2020 also included using rhodamine dye to track the plume to ensure samples were collected in the PW plume (Advisian, 2016; 2020). These surveys found no exceedances of DGVs beyond 50 m from the PW discharge point.

In the 2020 survey, the plume was visually confirmed using rhodamine dye injection and drone footage and found to extend approximately 0.5 km in the direction of the prevailing current from the Pyrenees Venture FPSO. These observations were made under extremely calm conditions with small, long-period swell and light winds (Advisian, 2020). Under these low-energy conditions, although 99% species protection would have been achieved by 200 m (as per modelled predictions) the visual plume depicted by the dye likely represents its worst case maximum potential extent. During period of larger swells and stronger winds, surface mixing would increase, resulting in a smaller plume. Dilution performance was further assessed in 2020 using multivariate statistics on conductivity, temperature, depth profiles and toxicant concentrations and found no significant relationships with conservative tracers (i.e. salinity) and non-conservative tracers (i.e. barium and strontium) outside of 50 m from the discharge point. The statistical analysis of water quality showed no evidence of a gradient effect with distance from the discharge point. Barium and strontium concentrations at the end-of-pipe were sufficiently high to remain detectable in water samples even at dilutions up to 2,300 (Advisian, 2020), yet no spatial trend was observed and concentrations in water samples were near background levels within 50 m. This confirms that PW dispersion modelling is conservative and supports the approved mixing zone delineation, which predicts a minimum of 153 dilutions at 50 m during 1,589 m³/day of overboard discharge during future routine operations. Based on the conservative assumptions applied in the dispersion modelling, it is reasonable to also conclude that the predicted dilution factor of approximately 1:239 at a discharge rate of 9,062 m³/day would be achieved at 200 m under all seasonal metocean conditions.

Water temperature

Near-field modelling indicates that the 3°C temperature increase above ambient marine water from PW and cooling water discharge is confined to within 4 m of the discharge location (RPS, 2025). Thermal impacts on marine biota are not expected beyond this immediate area.

Impact assessment

PW discharges have the potential to influence local marine environments due to residual hydrocarbons, process chemicals, and naturally occurring particulates. These effects are typically confined to the vicinity of the discharge due to rapid subsurface dilution and the buoyant nature of the PW plume, which initially plunges below the surface and then rises toward the water column.

Potential environmental impacts from PW overboard discharge include:

- changes to water and sediment quality
- toxicity effects on biota, including species listed under the EPBC Act
- changes to the values of relevant KEFs, namely the Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula, and the Continental Slope Demersal Fish Communities.

To understand these potential impacts, Woodside has conducted a comprehensive historical program of in-situ sampling and testing across its offshore production facilities. Data from Pyrenees-specific surveys, combined with this cumulative knowledge, provide a robust foundation for evaluating environmental outcomes associated with PW discharges.

Impacts from PW overboard discharge have been assessed based on a worst-case scenario of 9,062 m³/day continuous discharge, representing the maximum potential impact from a contingency discharge during system repair. Routine and lower-volume non-routine discharges (1,589 m³/day continuous or 9,062 m³/day for a 10-day period) would result in proportionally lower impacts but are assessed conservatively using the worst-case scenario to ensure environmental protection.

Potential Impacts to Water Quality

Potential impacts to water quality from PW have been assessed through chemical characterisation, ecotoxicity testing, and dispersion modelling of discharge volumes. A review of historical monitoring at the Pyrenees Venture FPSO indicates the approved mixing zone has not been exceeded and provides high confidence that impacts from PW discharge are highly localised and pose negligible effects to environmental receptors (Advisian, 2022).

Chemical characterisation of PW

End-of-pipe chemical analyses conducted annually since 2011 (except during FPSO downtime in 2018 to 2019 and 2022 to 2024) indicate that most analytes are below guideline values or at low concentrations, achieving the 99% species protection guideline value well within the approved 200 m mixing zone.

Since 2013, nitrogen, copper, and zinc have occasionally exceeded the ANZG (2018) 99% DGVs at end-of-pipe concentrations. These exceedances were minor, requiring minimal dilution to meet the 99% species protection level. Elevated copper concentrations have been observed at some in-situ monitoring sites, including reference sites, during historic Pyrenees surveys and at other Woodside assets. These measurements are not attributed to end-of-pipe PW concentrations or active discharges.

In situ water quality

Annual surface water monitoring of the receiving environment has been conducted since 2011, measuring metals, metalloids, hydrocarbons (TPH, BTEX, PAH), nutrients and NORMs. Since 2016, monitoring coincides with end-of-pipe characterisations.

Results confirm that the 99% dilution is achieved at or before the mixing zone boundary, consistent with conservative dispersion modelling. Concentrations of TPH, TRH, BTEX, PAH, phenol and NORMs were below limits of reporting at all sites. Metals were below 99% DGVs, except for occasional minor copper exceedances including at reference sites, consistent with historical patterns and demonstrating negligible environmental risk.

Residual process chemicals

Residual process chemicals in PW may include scale inhibitors, biocides, corrosion inhibitors, and other production chemicals. Dosages are determined according to production requirements and are monitored in line with the Pyrenees Chemical Application Manual. Ecotoxicity risks are assessed through individual chemical risk assessments and WET testing, which consistently demonstrates that concentrations of residual chemicals do not pose measurable toxicity to local marine organisms.

Naturally occurring radioactive materials

PW may contain low levels of radionuclides, including uranium-238 and thorium-232 decay chains, as well as longer-lived isotopes such as lead-210, polonium-210, radium-226 (Ra-226), and radium-228 (Ra-228) (Coleman & West, 2000). These radionuclides preferentially adsorb to suspended particles and fine sediments, ultimately settling in low-energy seabed areas where they are isolated from the biosphere (Valeur & Peterson, 2013).

Measurements of Ra-226 and Ra-228 in Pyrenees PW range from below detection to approximately 6 Bq/L, which is below the average concentration of natural radioactivity in surface seawater (~13.6 Bq/L from K-40) (Walker & Rose, 1990). Field water quality surveys confirm that NORMs concentrations are below detection limits in the receiving environment, indicating negligible radiological risk to marine biota (Advisian, 2017; 2020; 2021).

Impact summary

The assessment of impacts is underpinned by the primary disposal mechanism for all/the majority of PW generated from the activity being re-injection and therefore avoiding or significantly reducing overboard discharge and any associated impact.

In overboard discharge scenarios, the potential impact of PW discharges on water quality is expected to be Minor due to:

- low anticipated routine discharge volumes
- controlled short duration (both in the context of field life and duration of the EP) of non-routine or contingency discharges
- conservative worst-case dispersion modelling demonstrating localised impact zone
- historical in-situ verification being appropriate and suitable based on level of risk, and demonstrating rapid dilution.
- additional PW plume field verification to be performed during contingency overboard discharge should it be required.

Any effects are temporary and confined to the immediate mixing zone, with no measurable impact on environmental receptors beyond this area.

Potential impacts to biota

Water depths in the Operational Area range from approximately 190 m to 215 m. The fauna present is predominantly pelagic species of fish, with migratory species such as turtles, birds, whale sharks and cetaceans as well as seabirds present in the area seasonally. These fauna species may include those associated with Traditional Custodians values.

A number of EPBC-listed marine species have BIAs which overlap the Operational Area, including:

- humpback whale migration BIA
- interinteresting buffer BIAs for flatback, green and loggerhead turtle
- whale shark foraging BIA.
- wedge-tailed shearwater breeding BIA.

In addition, habitat critical to the survival of the flatback turtle overlaps the Operational Area.

Two KEFs also intersect the Operational Area:

- Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula
- Continental Slope Demersal Fish Communities overlap.

Fauna associated with these KEFs, such as demersal fish, may be exposed to PW overboard discharges.

PW characteristics and toxicity

Most treated PW has low to moderate toxicity (Neff et al., 2011), with actual toxicity dependent on its chemical constituents and any added process chemicals, the level of treatment and dilution with condensed water prior to release, and the dilution achieved as the discharge mixes with seawater. Hydrocarbons in PW are considered non-specific narcotic toxins with additive toxicities; therefore, toxicity largely depends on the total concentration and range of bioavailable hydrocarbons (Neff, 2002).

Potential impacts of PW to biota have been assessed through WET testing and dispersion modelling to verify required dilutions are being achieved within the approved mixing zone.

WET testing

WET testing accounts for interactions between toxicants and effects that cannot be readily measured. Eight toxicity tests are conducted on a PW sample using taxa of ecological relevance which are primarily tropical Australian marine species (Warne et al., 2025). Tests are selected based on ecological relevance, sensitivity to contaminants, robust protocols and reproducibility. Safe dilution factors to achieve predicted no effect concentration were determined from WET tests conducted in 2017 and 2021 (Table 6-17). WET testing has not occurred since 2021 due to reinjection but will be completed if overboard discharge resumes.

Table 6-17: Guideline values and required dilutions to achieve 99% and 95% species protection

Species protection level	Guideline value and safe dilutions to achieve predicted no effect concentration	
Year	2017	2021
99%	0.72 (1:139)	1.90 (1:53)
95%	1.8 (1:56)	3.00 (1:34)

A 'moderate' reliability DGV for a 99% species protection level was calculated as 0.72% PW in ambient seawater on a volume basis from the species sensitivity distribution method, which is equivalent to a safe dilution factor of 1:139 to achieve the predicted no effect concentration. These results were confirmed again in 2021 by full suite WET testing which resulted in a guideline value of 1.90% PW with a corresponding safe dilution factor of 1:53. The DGV safe dilutions (139) for a 99% species protection level from the 2017 sample is considered to be representative of the facility's PW.

Dispersion modelling showed that at least 153 dilutions would be achieved at 50 m and approximately 284 dilutions at 200 m from the discharge point during future routine operations discharge volume of 1,589 m³/day. Under the contingency discharge of 9,062 m³/day, modelling predicts 239 dilutions at 200 m, ensuring that adequate plume dispersion and mixing occur within the approved mixing zone boundary. WET testing will be completed upon initiation of overboard discharge and then every three years if overboard discharge is occurring to verify the toxicity profile of the PW.

Bioaccumulation

Bioaccumulation refers to the uptake of substances through water, diet, or direct contact. PW may contain BTEX, metals, NORMs, PAH and phenols, which could potentially bioaccumulate in biota.

The most comprehensive field study assessing bioaccumulation of hydrocarbons and metals from PW discharged into offshore waters was undertaken by Neff et al. (2011). At the request of the US Environmental Protection Agency (US EPA), the Gulf of Mexico Offshore Operators Committee sponsored a large-scale investigation into the bioconcentration of PW constituents in marine invertebrates and fish around several offshore production facilities discharging more than 731 m³/d of PW to outer continental shelf waters. The study targeted five metals (As, Cd, Hg, Ra-226 and Ra-228); three volatile monocyclic aromatic hydrocarbons (benzene, toluene, and ethylbenzene), and four semi-volatile organic chemicals (phenol, fluorene, benzo(a)pyrene, and di(2-ethylhexyl)phthalate). Additional analytes including xylenes and a comprehensive suite of 40 parent and alkylated PAHs and dibenzothiophenes, were also analysed in PW, ambient water and tissues.

Neff et al. (2011) found that concentrations of monocyclic aromatic hydrocarbons, PAH and phenol were several orders of magnitude higher in PW than in ambient seawater. There was no evidence, however, that these compounds were bioconcentrated in marine organisms. They were either undetected (>95% of tissue samples) or present only at trace levels in invertebrate and fish tissue. Slight, but statistically significant, increases in certain petrogenic PAHs' (e.g. alkyl naphthalenes, alkyl dibenzothiophenes) were observed, in some bivalve molluscs near discharging facilities, though not in fish. Concentrations remained well below levels that could cause harm to marine fauna or pose risks to humans consuming seafood collected near offshore facilities.

End-of-pipe PW samples from the Pyrenees Venture FPSO indicate that PAH concentrations are below laboratory reporting limits, and BTEX concentrations are very low (Advisian, 2020; 2021). While laboratory studies (Berry 1980) demonstrate that BTEX can bioaccumulate under extremely high, artificial exposure concentrations, such conditions do not occur around the FPSO. Field-based water quality sampling around the Pyrenees Venture FPSO confirms that BTEX, PAH, NORMs, phenols, and bioaccumulating metals (As, Cd, Hg) are below analytical detection limits in all receiving water samples (Advisian, 2022).

In the marine environment, mercury is typically present as complexes of mercury (II) or as organomercurials (Hart, 1982). Bacterial methylation can transform inorganic mercury into more bioavailable and toxic forms (e.g. methylmercury), although Neff et al. (2011) found no differences in metal concentrations (As, Ba, Cd, Hg) between molluscs and fish collected near discharging and non-discharging platforms in the Gulf of Mexico. This finding suggests that potential impacts from metals are limited to the immediate vicinity of discharge points and are unlikely to affect mobile species. Mercury has never been detected above laboratory reporting limits at the Pyrenees Venture FPSO; therefore, impacts from this pathway are not expected.

The potential for environmental impacts associated with bioaccumulation of PW constituents is very low. Any effects would be localised to individual organisms in close proximity to the FPSO and would not affect populations of protected or commercially significant species. The risk to fisheries is further reduced to ALARP by the PSZ, which prohibits fishing activities near the FPSO. Given the low contaminant concentrations, rapid plume dilution, and conservative dispersion modelling results, the potential for bioaccumulation is assessed as Minor, and restricted primarily to sessile organisms growing on the hull or adjacent structures.

Potential impacts to EPBC listed species

There are 26 listed threatened species and 40 listed migratory species which may occur within the project area, including whales, whale sharks, sharks, rays, dolphins, sea snakes, turtles and seabirds (Appendix C). Key threats identified in species recovery plans and threat abatement assessment are outlined in Section 6.9.

Cetaceans

The humpback whale migration BIA overlaps the FPSO. Short-term exposure may occur for individuals during transit through the Operational Area in the vicinity of the FPSO.

During PW overboard discharge, marine mammals, including humpback whales, may be exposed to elevated contaminant concentrations primarily through contact with the water column while transiting the Operational Area. Humpback whales undertake seasonal migrations that overlap with the Operational Area, creating the potential for short-term exposure to PW potentially discharged.

Direct exposure may occur through ingestion of water or prey containing contaminants, while indirect effects could arise from temporary changes in prey availability or water quality within the mixing zone. Modelling, however, indicates that contaminant concentrations decline rapidly beyond the immediate discharge area and remain below ANZG (2018) guideline values, and the exposure risk is further reduced by management of the contingency overboard discharge under the OMDAMP and the return to routine reinjection operations once repairs are completed.

Marine turtles

The internesting buffer for the green and loggerhead turtles are more than 3 km from the FPSO and, at this distance, are unlikely to be affected by PW contaminants. The internesting buffer BIA and habitat critical to the survival of the flatback turtle, however, overlap the FPSO.

The shortest distance from the FPSO to the nearest nesting site (the Muiron Islands) is approximately 26 km, and the water depth at the facility is around 200 m. While these sensitive areas for the flatback turtle extend offshore, they primarily encompass foraging and internesting ranges of turtles that use adjacent coastal and island nesting beaches. The deep offshore environment of the Operational Area does not provide suitable nesting or benthic foraging habitat (i.e. no emergent islands, reefs, or shallow shoals), and therefore only low numbers of transient turtles are expected to occur near the facility.

The Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017) identifies chemical discharges as a potential threat to turtles. However, any exposure of transient individuals to PW discharge would be limited to brief, surface contact within the approved 200 m mixing zone. Modelling indicates that contaminant concentrations rapidly dilute below ANZG (2018) guideline values at this boundary. Consequently, potential for acute or chronic toxicity is negligible, and contact durations are expected to be very short given turtle movement behaviour.

Although the outer extent of flatback turtle habitat critical to survival overlaps the FPSO, turtles are unlikely to utilise this deepwater area during nesting or internesting phases, which are typically associated with shallow coastal waters around Barrow Island and the adjacent mainland (Chevron Australia, 2015; Whittock et al., 2014). Therefore, potential exposure of turtles is expected to be infrequent and transient.

Overall, any interaction between PW discharge and marine turtles is predicted to result in no measurable impact at the individual or population level. The activity will be managed under the OMDAMP to ensure ongoing compliance with water quality criteria and maintenance of ecological values within and beyond the mixing zone.

Whale shark

The Pyrenees Venture FPSO is located within the known seasonal (July to November) foraging area (BIA) for the whale shark.

Whale sharks typically migrate through the area during March to July and tend to travel as single individuals. As filter feeders, whale sharks primarily consume plankton. Therefore, there is a low probability of incidental feeding within highly diluted PW. Although the plume associated with PW discharge is confined to surface waters, whale sharks in oceanic environments exhibit frequent deep-diving behaviour (Bignell et al., 2025), reducing the likelihood of sustained contact with surface discharges.

Modelling indicates that PW concentrations reach steady-state within two days of continuous discharge, after which plume size and contaminant levels remain stable and limited to within approximately 200 m of the facility. At this approved mixing zone boundary, PW quality will meet 99% species protection criteria consistent with ANZG (2018) guidelines. Given the dispersive open-water environment, rapid dilution, and transient nature of whale sharks and other megafauna (including cetaceans, rays, and marine turtles), potential exposure durations are expected to be brief, and contaminant concentrations are well below levels that could cause acute or sub-lethal effects.

While the extended duration of contingency overboard discharge could increase the number of individuals who momentarily come into contact with the plume while transiting through the area, no measurable impact to individuals or populations is expected due to short contact times and low contaminant concentrations. Fish communities and

other fauna associated with the facility may experience minor, intermittent changes in local water quality as plume vectors shift, but effects are predicted to be localized and non-persistent. Overall, the activity is assessed as having no lasting or ecologically significant impact on whale sharks or other transient marine fauna, with discharges managed under the OMDAMP to ensure compliance with relevant environmental performance standards.

Fish

During PW overboard discharge, fish in the Operational Area may be exposed to elevated contaminant concentrations through both direct and indirect pathways. Direct exposure occurs when fish swim through the discharge mixing zone, resulting in uptake of contaminants across the gills or ingestion during normal feeding, and when benthic or demersal species come into contact with contaminants settling on the seafloor.

Indirect exposure may occur via dietary uptake of contaminated prey (e.g. zooplankton or benthic invertebrates) or through temporary alterations to habitat quality, including changes in water chemistry or prey availability. Although a contingency overboard discharge may persist for up to 300 days, predicted contaminant concentrations rapidly dilute beyond the mixing zone and remain below ANZG (2018) guideline values, limiting potential sub-lethal or population-level effects. Exposure is further mitigated through management of the discharge under the OMDAMP and a return to routine reinjection once repairs are complete.

Seabirds

The FPSO is located within the breeding BIA for the Wedge-tailed shearwater, which supports colonies on nearby islands and associated offshore foraging habitat. Adult shearwaters forage widely over open waters, often tens of kilometres from nesting colonies, and may occasionally occur near the FPSO. During overboard discharge of PW, potential exposure of foraging birds to PW contaminants would be limited to short-term contact with surface waters in the immediate vicinity of the discharge. Modelling indicates that PW rapidly dilutes below ANZG (2018) guideline values within a short distance of the FPSO, and surface sheens are not expected under managed discharge conditions. Consequently, the likelihood of direct exposure through surface contact or ingestion is low.

Indirect exposure through consumption of contaminated prey is also unlikely, as contaminant concentrations in the water column and biota are predicted to remain below levels that could cause sub-lethal or population-level effects. No disturbance to nesting or breeding behaviour is expected given the distance of colonies from the discharge point and the absence of light, noise, or physical presence impacts associated with the activity. Overall, PW overboard discharges within the Wedge-tailed Shearwater breeding BIA is predicted to have negligible impact on individual birds or the breeding population, with discharge quality and environmental performance managed under the OMDAMP consistent with ANZG (2018) guidelines.

Plankton

A change in water quality as a result of comingled PW and cooling water discharges has the potential to result in the injury or death of planktonic species within the water column through toxicity effects. Early life stages of fish (embryos, larvae) and other plankton would be the most susceptible organisms to exposure from hydrocarbons and chemicals in the discharges, as they have limited mobility and are therefore likely to be exposed to the plume, if present. Modelling indicates that any toxicity effects would be confined to within approximately 200 m of the discharge location, with concentrations rapidly diluting below ANZG (2018) guideline values beyond this distance. Given the naturally high mortality rates and rapid turnover of planktonic species (UNEP, 1985), as well as the abundance and continuous replenishment of plankton through reproduction and advection from surrounding waters (Volkman et al., 2004), population-level effects are not expected. The predicted spatial extent of potential impacts is small relative to the regional distribution of plankton, and any localised effects would be short-lived. The discharge will be managed under the OMDAMP to verify that water quality remains within acceptable limits. Therefore, the overall impact on plankton and early life stages of fish is predicted to be negligible.

Potential impacts to KEFs and AMPs

Values and sensitivities of the Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula (overlaps the FPSO) and Continental Slope Demersal Fish Communities KEFs (more than 4 km from the FPSO) are described in Section 4.7.

These features represent important benthic and demersal habitats that support diverse fish assemblages and ecological processes. During PW discharging, potential impacts to these KEFs could occur through the deposition of fine particulates from the discharge plume or exposure of pelagic and demersal biota to dissolved contaminants within the water column. Modelling predicts that any increase in contaminant concentration or particulate deposition will be confined to within approximately 200 m of the discharge point, with rapid dilution below ANZG (2018) guideline values beyond this zone. Given the localized nature of the discharge, the natural variability of sediment and water quality at this depth, and the mobility of demersal species, measurable or long-term impacts on the structure or function of these KEFs are not expected. Sediment quality considerations are discussed further below.

No Australian or State Marine Parks occur within the 200 m approved mixing zone. The nearest protected areas from the Operational Area are the Gascoyne Marine Park (7.7 km) and the Ningaloo Marine Park and World Heritage Area (8.6 km). As these parks are well beyond the mixing zone, no impacts to their ecological or conservation values are expected, and they are therefore not considered further.

Impact summary

Overall, PW overboard discharge, managed under the OMDAMP and within the approved mixing zone, is predicted to have negligible to minor environmental impacts. Effects are localised, temporary, and below guideline values, with no

expected population-level or long-term ecological consequences for EPBC-listed species, KEFs, or nearest marine parks.

Potential impacts to sediment quality

The accumulation of PW contaminants in sediments is primarily influenced by the volume and concentration of particulates in discharged PW, the tendency of constituents to adsorb onto suspended matter and settle, the area of potential deposition (controlled by current speeds and water depths), and subsequent processes such as resuspension, bioturbation, and microbial degradation in the water column and on the seabed.

Contaminants in PW may be introduced into sediments through the precipitation of soluble contaminants and the flocculation and sedimentation of particulate matter within the discharge plume. Studies at Woodside facilities indicate that PW contains very small amounts of solid material, with limited potential for settling or flocculation due to small particle sizes (Jacobs 2016). Based on oceanographic analysis and settling rate calculations, particles sized 1 to 5 µm are unlikely to permanently settle, while particles sized 5 to 40 µm would only settle in very deep water (>5,000 m) or under very weak hydrodynamic conditions (SKM, 2013). Samples of processed PW will be collected to assess particle size distributions and potential sedimentation near the Pyrenees Venture FPSO if discharge occurs.

Sediment quality surveys were completed in 2015 and 2021 at both reference sites and within the mixing zone (Advisian, 2015; 2021). In 2015, all metals were below Australian and New Zealand Environment Conservation Council/Agriculture and Resource Management Council of Australia and New Zealand (2000) trigger levels, and concentrations of hydrocarbons (BTEX, TPH, PAHs) and phenols were below laboratory limits of reporting or relevant guideline values. In 2021, concentrations of BTEX, TPH, PAH, and phenols were all below limits of reporting, and metal concentrations were below ANZG (2018) DGVs. No impacts to sediment quality were identified in either survey.

The buoyant nature of the PW plume, with lower salinity (30.7 psu) and higher temperature (~55°C) than ambient seawater, confines potential toxicity effects to near-surface waters. Chronic toxicity assessments and dispersion modelling indicate that any effects within the mixing zone are highly localised, with negligible risk to sediment quality.

Impact summary

Considering the low particulate load of PW, rapid near-field dilution, relatively deep and well-mixed receiving waters (~200 m depth; median current 0.2 to 0.3 m/s), and consistent monitoring results, the potential effect of PW overboard discharge on sediment quality is assessed as Minor. Sediment surveys in 2015 and 2021 found no differences between reference and impact sites attributable to PW discharges, reinforcing the conclusion that any effects are temporary, localised, and unlikely to result in long-term sediment degradation.

Demonstration of ALARP

Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
None identified.				
Good practice				
Chemicals will be selected with the lowest practicable environmental impacts and risks subject to technical constraints.	F: Yes. Routinely implemented to the chemical selection process for Woodside facilities. CS: Minimal cost. Standard practice.	Selection and assessment of chemicals in accordance with the process, reduces environmental impacts associated with residual chemicals in PW discharge.	Benefits outweigh cost/sacrifice.	Yes C 8.1
Manage OIW concentrations to a threshold lower than the 30mg/l adopted control C 8.2.	F: Not feasible with existing PW treatment system. CS: Design and implementation costs including retrofitting of existing equipment or additional treatment equipment installed	Minimal additional benefit, as re-injection is the primary management measure and overboard discharge scenarios are limited in duration and/or volume. Dispersal modelling shows the 200 m mixing zone remains protective of 99% of species and the discharge	Disproportionate given the limited incremental risk reduction relative to operational complexity and the normally low volume of overboard discharge during routine and non-routine operations.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
	to suitable design specification. Additional equipment (CFU) has been installed to maximise potential reduction of OIW concentrations, but performance is unknown as it has not been operated and does not guarantee a reduction.	point is more than 13 km from the Ningaloo World Heritage Area.		
Monitor and manage OIW concentrations limiting average PW OIW to less than 30 mg/L (over a rolling 24-hour period).	F: Yes. CS: Monitoring and implementation costs. Standard practice. The 30 mg/L limit proposed is a legacy of the former OPGGS Environment Regulations 29 and 29A repealed in 2014. Averaging over a 24-hour rolling period allows for short-term variability while ensuring sustained compliance.	Maintains discharge quality while ensuring average conditions are representative of real exposure potential. Effectively controls risk at the point of discharge.	Benefits outweigh cost/sacrifice. The facility can continue to operate efficiently while maintaining environmental protection. Allows adaptive management during transient conditions (e.g. start-ups or well slugs) without unnecessary production interruptions.	Yes C 8.2
Implement monitoring and management framework for PW discharges, including: • monitoring of PW discharge volume • chemical characterisation (including BTEX, PAHs, organic acids, metals) • WET testing timing of triennial sampling to be representative aiming to detect change • sedimentation and precipitation study.	F: Yes. CS: Monitoring costs. Standard practice.	The OMDAMP provides for detection of significant changes to the PW discharge characteristics (i.e. volumes, OIW concentration, chemical characterisation) that may cause an increased impact or risk to the marine environment. Monitoring is designed to detect if 99% species protection is achieved at the approved mixing zone boundary. Through the implementation of the OMDAMP, potential risks to the environment are reduced.	Woodside has developed the OMDAMP based on operational experience from relevant offshore assets. The OMDAMP considers risk-based adaptive management measures.	Yes C 8.3

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
Online monitoring and/or procedural controls in place to monitor and control PW OIW concentrations and prevent discharge of PW with high OIW concentrations. Process performance monitored by OIW analyser. Conduct manual sampling on a six-hourly basis if online analyser is unavailable, where safe and practicable to do so.	F: Yes. CS: Minimal cost. Standard practice.	The OIW analyser provides optimal process control and safeguarding to monitor, control and prevent discharge of PW with high OIW concentration to the environment. High OIW PW is inboarded for further separation then a second OIW analyser is installed to monitor, control and prevent discharge of PW with high OIW concentration to the environment. Manual monitoring of OIW concentrations when online analyser unavailable when safe and practicable to do so.	Control is Procedural requirement – must be adopted	Yes C 8.4
Professional judgement – Eliminate				
Reinjection of PW into reservoirs.	F: Yes. CS: Maintenance and implementation costs.	Reinjection results in no impact. Target >90% reinjection over the life of the facility reduces impact in over boarding scenarios.	Benefits outweigh cost/sacrifice.	Yes C 8.7
Cease production to avoid overboard discharge of PW if reinjection is not available.	F: Possible. CS: Ceasing production to avoid overboard discharge of PW during periods when reinjection is unavailable would result in a complete shutdown of the Pyrenees Venture FPSO's oil production operations. This would lead to significant loss of production revenue, potentially in the order of several million dollars per day, depending on prevailing oil prices and production rates.	Ceasing production results in no environmental impact from PW discharge.	Cost/sacrifice outweighs benefits because potential impacts from overboard discharge can be managed to ALARP and an acceptable level if production is reduced to limit PW overboard discharge. Given the negligible incremental environmental benefit compared to the existing controlled and monitored discharge regime, the level of economic and operational sacrifice is considered grossly disproportionate to the additional risk reduction achieved.	No
Avoid reinjection system repair to prevent potential	F: Technically feasible but results in ongoing system degradation.	Avoids short-term contingency overboard discharge but increases likelihood of significant	Not proportionate. Short-term avoidance of contingency overboard discharges	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
contingency PW discharge.	CS: Low immediate cost, but increased risk of unplanned failure and extended downtime and potential increased future operational overboard discharges.	future operational overboard discharges with reduced reinjection capacity over the long term. Increases overall environmental and operational risk.	does not justify the higher long-term environmental risk and loss of system integrity.	
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
Topside PW treatment systems available (e.g. CFU/DGF or temporary skid) to treat PW to <30 mg/l prior to discharge overboard.	F: Yes. CS: Maintenance and implementation costs.	Limiting volume of PW overboard discharged and OIW concentrations in PW reduces impacts to the environment to acceptable level.	Benefits outweigh cost/sacrifice.	Yes C 8.2
If reinjection system is not available, continue to produce at full capacity and overboard full PW volume. Overboard discharge PW at full production rates (~23,000 m ³ /day).	F: Yes. CS: Prioritises production over management of PW impact.	Results in increased environmental impact. Not ALARP as other options available to reduce impacts.	Sacrifice to reputation outweighs benefits from full production.	No
Reduce production during maintenance and repair of the reinjection system to allow for a contingency overboard discharge of up to 9,062 m ³ /day for up to 300 days.	F: Yes, technically feasible. CS: Maintenance and implementation cost and loss of approximately 60% production revenue.	Restores maximum reinjection capacity and reduces likelihood of unplanned failure. Controlled contingency overboard discharges, if required, will be managed under OMDAMP consistent with ANZG (2018) guidelines.	Proportionate. Short-term, low-risk contingency overboard discharge is outweighed by long-term environmental protection and risk reduction.	Yes C 8.6
Professional judgement – Procedures and administration				
The online analysers are calibrated against a manual sample analyser.	F: Yes. CS: Monitoring and implementation costs. Standard practice.	Calibration of equipment to maintain quality control.	Calibrations undertaken at appropriate frequency to maintain quality control and in line with procedures.	Yes C 8.5
Routine in-situ ambient environmental monitoring beyond the requirements of Woodside's OMDAMP.	F: Yes. CS: Increasing the frequency of field-based monitoring would result in additional offshore demand on resources, safety hazards and costs associated with an offshore	Routine in-situ monitoring following discharge is not an effective control to manage the nature of PW discharges and results in no impact reduction. Increases to in-situ monitoring beyond the adaptive management approach outlined in the OMDAMP does not follow	Long term monitoring of water and sediment (at other Woodside facilities) characteristics indicate the PW discharge is not detectable beyond the approved mixing zone. This also supports the appropriateness of non-field-based monitoring	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
	environmental monitoring program, such as vessel activities, logistics, manual labour, analytical laboratory and service provider costs.	good application of the hierarchy of controls and results in disproportionate sacrifice with regard to execution risks and costs for limited gain.	outlined in the OMDAMP as effective controls do not require routine monitoring of water and sediment. If initial PW monitoring indicates an increased risk to sediment quality that is likely to be detectable by <i>in situ</i> monitoring (elevated contaminant loads, increased particles size) non-routine monitoring may be undertaken. PW separation process design, optimisation, monitoring and surveillance offer the primary controls, with discharge OIW analysis in place to detect performance variations. Further, Woodside maintains a routine OIW monitoring program for the PW stream (including adaptive management via the OMDAMP, which assesses the need for in-situ monitoring). The initial monitoring and increased frequency of end of pipe sampling are proposed to verify assumptions and demonstrate compliance at end of pipe. If triggers are not met end of pipe non-routine in-situ monitoring would be considered. The work undertaken to date provides Woodside with a sound understanding of the nature and scale of the environmental impacts from PW discharge, which would not be further improved by increasing the frequency of routine in-situ monitoring. The execution risks and cost of implementing	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
			this control is grossly disproportionate to the environmental benefit.	
On an annual basis, review PW routine or contingency monitoring results and determine if non routine sediment quality monitoring should be undertaken as per OMDAMP.	F: Yes. CS: Monitoring and implementation costs. Standard practice.	Reviewing the monitoring results to determine if additional monitoring is required does not reduce environmental impact but does provide assurance impact is being appropriately defined.	Additional monitoring on a risk-based basis is proportional to the additional cost of implementation and part of the OMDAMP.	Yes C 8.8
In-situ plume measurement and analysis of plume dilution and mixing characteristics, including water quality monitoring at approved mixing zone boundary to inform an updated impact assessment.	F: Yes, once a contingency overboard discharge is confirmed as required, a plume verification survey will be commissioned and completed as soon as practicable following initiation of contingency overboard discharge.. CS: Monitoring and implementation costs. Incrementally increases vessel activities within the 500 m PSZ adjacent to the facility with applicable SIMOPS management requirements.	In-situ plume studies validate the predicted mixing zone and dilution performance in the modelling. This provides assurance that model outputs remain reliable for understanding PW dilution. Incorporation of measured WET testing results, chemical characterisation data, verified model dilutions, and water quality monitoring at the approved mixing zone boundary confirms that the EPO has been met.	Additional cost is proportionate to the environmental benefit gained from validating the conservative assumptions used in the impact assessment.	Yes C 8.9

Demonstration of ALARP
Risk-based analysis
Application of Woodside's Risk Management Procedures and implementation of the adaptive management framework provides for assessment of potential PW impacts, identification of changes to discharges, systematic assessment of risks and ongoing assessment/monitoring of discharge streams to reduce risk to ALARP, which includes: - ongoing hazard identification, risk assessment and the identification of control measures - ongoing PW discharge monitoring.
Company values
Corporate values require all personnel at Woodside to comply with appropriate policies, standards, procedures and processes while being accountable for their actions and holding others to account in line with the Woodside Values. As detailed above, the Petroleum Activity will be undertaken in line with these policies, standards and procedures, which include suitable controls to manage PW discharge.

Societal values

Due to the Petroleum Activity's proximity to sensitive receptors and potential uncertainty around PW discharges, the PW discharge consequence rating presents a Decision Type B in accordance with the decision support framework described in Section 2.6.1. Consultation was undertaken for this program to identify the views and concerns of relevant persons, as described in Section 5.

Woodside has sent a Consultation Information Sheet to all identified relevant stakeholders regarding the Petroleum Activity (Section 5), no specific concerns around PW discharge were identified through this process.

ALARP statement

On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts of PW discharge. Woodside has completed additional PW treatment studies, treatment trials, upgrades to PW system vessel internals, potential use of a temporary OIW skid, OIW and discharge volume monitoring, and risk-based analysis (PW discharge modelling) to inform the evaluation and assessment of environmental impacts and risks. Woodside also implements a risk-based adaptive management framework, which includes annual end-of-pipe monitoring. The outcomes of both the modelling studies and long-term monitoring have been considered in determining the ALARP position. Historic in-situ water quality and sediment sampling has demonstrated no impact outside of the approved mixing zone. An in-situ plume verification study will be conducted if contingency overboard discharge is confirmed as required.

As no reasonable additional/alternative controls are currently identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts are considered ALARP.

Demonstration of acceptability

To assess and determine the acceptable limits of impacts from PW discharges, Woodside has considered appropriate guidelines, principles of ESD, company values and societal values.

Other requirements (includes laws, policies, standards and conventions)

The adopted controls and acceptability assessment has considered regulatory guidance, in particular the ANZG (2018) guidelines and WA EPA (2016) Technical Guidance: Protecting the Quality of Western Australia's Marine Environment. Both sources of regulatory guidance state that environmental values should be identified, and levels of ecological protection should then be set. To ensure ecosystem health is maintained overall, the cumulative size of the areas where lower levels of ecological protection apply should be proportionally small compared to the areas designated high and maximum.

The Monitoring and Management Framework aligns to the levels of protection described by both WA EPA (2016) and the ANZG (2018) guidelines through the acceptable limits of change. The level of ecological protection provided to sensitive receptors is consistent with the North-west Network Management Plan (2018). By monitoring and managing to the 99% species protection safe dilutions at boundary of the approved mixing zone at 200 m from the discharge point, there can be high confidence that potential impacts are managed via the OMDAMP.

The Minamata Convention 2013 (ratified by Australia in 2021) requires measures to be in place to control releases containing mercury or mercury compounds. Each of these measures, with information on how each measure is met for discharges of PW from the facility is provided below:

- *Release limit values to control, and where feasible, reduce releases.* Guideline values related to mercury are in place and described above.
- *The use of best available techniques and best environmental practices to control releases.* Monitoring via the annual chemical characterisation at end-of-pipe and OMDAMP provides adaptive management to ensure best environmental practices.
- *A multi-pollutant control strategy for mercury releases.* The monitoring framework implemented includes full chemical characterisation and WET testing at end-of-pipe, which allows understanding of holistic toxicity of the effluent considering all contaminants.

Species recovery plans, approved conservation advice and threat abatement plans

Woodside has considered information contained in recovery plans, approved conservation advice and threat abatement plans published by DCCEEW. This includes the Recovery Plan for Marine Turtles in Australia (Commonwealth of Australia, 2017). The overarching objective of the Recovery Plan for Marine Turtles in Australia is to reduce detrimental impacts on Australian populations of marine turtles and hence promote their recovery in the wild. Three species of turtle have BIAs that intercept the Operational Area. The FPSO is within the flatback turtle BIA and the habitat critical to the survival of the species. The Recovery Plan identifies chemical discharge as a relevant threat to marine turtles and lists the following relevant priority action: 'Manage anthropogenic activities to ensure marine turtles are not displaced from identified habitat critical to the survival.'

With controls in place, Woodside considers the potential impacts and risk to marine turtles from changes in water quality from PW discharges are low and consistent with the Recovery Plan for Marine Turtles.

Principles of ecologically sustainable development

Woodside has established several research projects to understand the marine environments in which we operate, notably in the Exmouth region and the Kimberley region, including Rankin Bank, Glomar Shoal, Enfield Canyon and Scott Reef. Woodside's corporate values require that we consider the environment and communities in which we operate when making decisions. These principles of ESD were considered for this aspect:

- Integration Principle:
 - The existing environment (Section 4) has been described consistent with the definition within Regulation 5 of the Environment Regulations (i.e. includes ecological, socioeconomic, and cultural features), and any relevant values and sensitivities have been included within this impact analysis; therefore, the impact assessment process inherently includes economic, environmental and social considerations.
 - Feedback, objections and claims from relevant persons were considered, see Appendix F.
- Precautionary Principle:
 - The impact consequence rating for this aspect is Minor, therefore, potential for serious or irreversible environmental damage is not expected.
 - Although serious or irreversible environmental damage is not predicted to occur, there is some scientific uncertainty associated with the PW composition however it is not expected to change the consequence level and PW will be monitored and managed as per the adopted control measures.
- Intergenerational Principle:
 - The acceptable levels were developed consistent with the principles of ESD, including that the environmental impacts and risks of the offshore project will not forego the health, diversity, or productivity of the environment for future generations.
 - As described above, the predicted environmental impact spatially limited to an area around the facility which is not considered as having the potential to affect ecological integrity. By maintaining ecological integrity, the discharge of PW is not considered to have the potential to affect intergenerational equity.
- Biodiversity Principle:
 - The existing environment (Section 4) identifies and describes relevant MNES, as defined in Regulation 7(3) of the Environment Regulations; any relevant values and sensitivities are included within this impact analysis.
 - As described above, the predicted environmental impacts are spatially limited to an area around the facility, which is not considered as having the potential to affect ecological integrity. By maintaining ecological integrity, discharge of PW is not considered to have the potential to affect biological diversity.

Woodside looks after the communities and environments where we operate. Risks are inherent in petroleum activities; however, through sound management, systematic application of policies, standards, procedures and processes, Woodside considers that the predicted impact from PW discharge is acceptable.

Internal context

The Petroleum Activity is consistent with Woodside corporate policies, standards, procedures and processes as outlined in the Demonstration of ALARP (above) and EPOs (below), including:

- Woodside Environment and Biodiversity Policy
- Woodside Environmental Performance Procedure (which specifies maximum mixing zones and minimum sampling requirements).

Given that the 99% species protection level approved mixing zone has been established (200 m from discharge), the proposed limits of acceptable change meet the requirements of the Environmental Performance Procedure.

Woodside corporate values include working sustainably, with respect to the environment and communities in which it operates, listening to internal stakeholders, relevant persons, and considering HSE when making decisions. Consultation has been undertaken prior to the Petroleum Activity, as described below.

External context

Woodside recognises that its licence to operate from a regulator and societal perspective is to some extent, based on historical performance, complying with appropriate policies, standards and procedures, and perception of the expectations of external stakeholders. External stakeholder consultation (Section 5) was undertaken prior to the Petroleum Activity and stakeholder feedback (Section 5 and Appendix F) was incorporated into this EP where appropriate.

By providing PW monitoring and control measures that are commensurate with the risk rating, location, and sensitivity of the receiving environment (including social and aesthetic values), Woodside considers that societal concerns are addressed to an acceptable level.

Acceptability statement:

Routine, non-routine and contingency overboard discharges of PW have been evaluated as representing potential minor, localised, short-term impacts to water quality, marine sediment, marine fauna and ecosystem/habitat. As per Section 2.6, Woodside considers 'high order impacts' (Decision Type B impacts such as PW discharge) as acceptable if ALARP is demonstrated using good industry practice, consideration of company and societal values and risk based

Demonstration of acceptability

analysis. Acceptability is further supported where legislative requirements are met and societal concerns are accounted for, and alternative control measures are grossly disproportionate to the benefit gained. In addition, acceptability is assessed against the above criteria. Further opportunities to reduce the impacts have been investigated (refer ALARP demonstration discussion). The adopted controls are considered good oil-field practice/industry best practice, are consistent with ANZG (2018) and Woodside's internal requirements. The potential impacts are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts of PW discharge to a level that is broadly acceptable and demonstrate that the EPO is met.

EPOs, EPSs and MC

Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
EPO 11 No impact to the environment outside of the Approved Mixing Zone from planned discharge of PW.	C 8.1 Implement Woodside's Chemical Selection and Assessment Environment Guideline: - Where Gold, Silver, E or D OCNS rating (and no OCNS substitution or product warning), chemicals are selected – no further control required. - If chemicals with a different OCNS rating, sub warning or non-OCNS rated chemicals are required, chemicals will be assessed in accordance with the guideline prior to use.	PS 8.1 All chemicals intended or likely to be discharged to the marine environment will be assessed and approved prior to use in accordance with the Chemical Selection and Assessment Environment Guideline (described in Section 3.16.3) to ensure the impacts associated with use are ALARP and acceptable.	MC 8.1 Records demonstrate the chemical selection, assessment and approval process for operational chemicals is followed.
	C 8.2 Monitor and manage OIW concentrations in accordance with PARCOM 1997/16 Annex 3 methodology limiting average PW OIW to less than 30 mg/L (over a rolling 24-hour period).	PS 8.2 For routine and non-routine operations, OIW is limited to a 30 mg/L concentration 24-hour rolling average.	MC 8.2 Records of OIW concentrations (during normal operations) in PW discharge overboard maintained at all times. Records demonstrate that the OIW rolling average limits are not exceeded.
	C 8.3 Implementation of the Adaptive Monitoring and Management Framework for Produced Water, including: - monitoring of PW discharge volume - chemical characterisation (including mercury) - WET testing timing of annual/ triennial sampling to be representative aiming to detect change.	PS 8.3 No potential to impact environment outside the approved mixing zone based on multiple lines of evidence.	MC 8.3 Records show routine monitoring has been conducted. Further investigations have identified no potential to impact the environment from PW.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
	C 8.4 Online monitoring and/or procedural controls in place to monitor and control PW discharge volume, OIW concentration and prevent discharge of PW with high OIW concentration through OIW online analyser, operating procedures, and off-spec/outage procedures.	PS 8.4 Monitoring and Management of Produced Water Discharge Procedure: - PW discharge and reinjection volumes monitored at all times. - Water for injection, overboard disposal and reinjection continuously monitored with MARPOL certified OIW online analysers. - OIW analysers undergo regular calibration checks and maintenance (frequency described in facility offshore management system) in accordance with manufacturer's specifications. - Inline OIW analysers used with shutdowns/ auto-bypasses or manual sampling and testing for all PW overboard discharges. - Six-hourly manual OIW readings recorded when discharging overboard during analyser failure.	MC 8.4 Continuous records of OIW concentrations in PW volumes discharged overboard maintained at all times. Records indicate OIW meters inspected and maintained in accordance with procedures, maintenance system requirements and manufacturer's specifications. Records of manual verification samples during analyser failure or exceedance of OIW limits. Records indicate manual reading entered into the daily Pyrenees Production Report and the Enterprise Upstream database.
	C 8.5 The online analyser is calibrated with a manual sample analyser.	PS 8.5 Complete calibrations of online analyser and manual OIW sampling equipment in accordance with Offshore Laboratory Determination of Oil in Water Standard Operating Procedure.	MC 8.5 Records demonstrate manual sampling and calibration of online analysers is undertaken as appropriate.
	C 8.6 Reduce production during maintenance and repair of the reinjection system to allow for a contingency overboard discharge of up to 9,062 m³/day for up to 300 days or until reinjection system is fully functional.	PS 8.6 Online monitoring and/or procedural controls in place to monitor and control PW discharge volume and duration and prevent discharge of PW volume above acceptable levels.	MC 8.6 Records demonstrate online and/or manual monitoring of overboard PW volumes operating procedures in place and implemented.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
	C 8.7 Reinjection of PW into reservoirs.	PS 8.7 Facilities Basis of Design 6.4 Environmental Requirements: Under normal operating conditions (routine and non-routine operations), 90% of PW will be reinjected. The allowable period for discharge overboard will be based on assuming a 90% water reinjection system uptime including topsides, subsea and wells.	MC 8.7 Records of PW re-injection volumes indicate that >90% of PW has been reinjected over the life of the project.
	C 8.8 On an annual basis, review routine monitoring results and determine if non-routine sediment quality monitoring should be undertaken as per the OMDAMP.	PS 8.8 Complete review of routine monitoring results and determine contaminant load and/or contaminants with the potential to impact sediments have increased and whether non-routine sediment quality monitoring should be undertaken to determine extent of impacts.	MC 8.8 Records show annual review has been conducted as described.
	C 8.9 In-situ plume measurement and analysis of plume dilution and mixing characteristics, including monitoring at approved mixing zone boundary to inform an updated impact assessment.	PS 8.9 Commission a plume verification survey once contingency overboard discharge is confirmed as required, and complete survey as soon as practicable following initiation of contingency overboard discharge. Scope to include: - Obtain background measurements of surface and sub surface temperature and salinity levels surrounding facility - Tracking the plume (using a dye or similar) to quantify the horizontal and vertical plume dilutions achieved. - Conducting water quality sampling at the approved mixing zone boundary to measure potential contaminant concentrations.	MC 8.9 Technical report comparing in-situ dilution results with predicted model outputs consistent with the impact assessment, ALARP principles and an environmentally acceptable outcome.

6.7.7 Routine and non-routine discharges: liquid wastes and subsea fluids

Context														
Pyrenees Facility – Section 3.11 Production processes – Section 3.13 Subsea IMMR activities – Section 3.19				Physical environment – Section 4.4 Biological environment – Section 4.5				Consultation – Section 5						
Impacts evaluation summary														
Source of impact	Environmental value potentially impacted								Evaluation					
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Release of subsea chemicals or hydrocarbons by actuation of valves or during subsea operations and activities		x	x					A	1 – Minor	-	-	LCS GP PJ	Tolerable	EPO 12
Marine discharges of liquid wastes from Pyrenees Venture FPSO and vessel utility systems and drains (sewage, greywater, reverse osmosis brine reject, cooling water, putrescible waste, rainfall/deck washdown water, firewater deluge testing)		x	x					A	1 – Minor	-	-			
Source of impact														
Hydrocarbons, chemicals and liquids that may be discharged as a result of planned routine and non-routine operations and activities, as follows:														
- operational discharge of control fluids, including but not limited to: - discharge of subsea control fluids – subsea control fluid is used to control valves remotely from the facility. It is an open-loop system, designed to release control fluid from the control system during valve operations (e.g. up to about 1 L per valve actuation) - potential non-routine hydraulic fluid discharge associated with umbilical system losses/leaks - discharge of minor fugitive hydrocarbon from wells and subsea equipment (e.g. weeps/seeps/bubbles) - discharge of chemicals introduced into subsea infrastructure and the production stream, either as process or non-process chemicals (e.g. corrosion inhibitors, biocides, scale inhibitors); chemicals flow through the production process, with residual chemicals produced as a component of the PW discharged overboard - IMMR activities (nominal discharges from liquid waste, described below), including but not limited to: - discharge of residual hydrocarbons in subsea lines and equipment and small gas releases associated with isolation testing and breaking containment - discharge of residual chemicals in subsea lines and equipment, or the use of chemicals (including pigging); these chemicals are used and discharged intermittently in small volumes; small quantities of chemicals may remain in the flushed infrastructure, which may be released to the environment after disconnection - discharge of residual fluids during non-routine repair and replacement works, including (but not limited to), small volumes of produced formation water (Section 6.7.6), hydraulic fluids and/or reservoir hydrocarbons - during non-routine repairs to the reinjection system there may also be small volumes (approximately 10 m³) of PW discharged at the seabed														

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- liquid waste, including but not limited to:
 - sewage, grey water and putrescible waste from all vessels: the volume of waste from these sources generated by a typical FPSO is estimated to be in the order of 8 to 9 m³ per day
 - deck drainage from all vessels: rainfall and wash down activities on the deck may result in minor quantities of chemical residues, such as detergent, oil and grease entering the deck drainage system and being possibly discharged overboard
 - cooling water and brine from all vessels: seawater is brought onboard and used throughout the facility for the production of potable water via the flash evaporation water makers and to cool process equipment; marine discharges from these processes include brine from the creation of potable water and heated seawater; the heated seawater may include sodium hypochlorite, which is used to suppress growth of fouling organisms in the internal seawater systems
 - firewater deluge testing: testing of fire pump system using water from seawater lift system; discharge of firewater to marine environment via a pipe over the side of the Pyrenees Venture FPSO, thus avoiding full deck deluge and potential deck contaminants entering the marine environment; the discharge specification of firewater is similar to that of the cooling water discharge, i.e. chlorine from the Marine Growth Prevention System
 - subsea fluids: subsea valves are controlled hydraulically using fluid under pressure to adjust the position of the valve; the subsea control valves operate on an open circuit that leads to loss of subsea control fluid when the valve is activated; residual hydrocarbons or chemicals remaining in subsea lines and equipment may also be released to the marine environment as a result of subsea intervention works or subsea inspection, maintenance and repair activities.

Impact assessment

Subsea fluids

Subsea control fluid is the main planned routine subsea chemical discharge. An industry standard water-based subsea control fluid is used to control wellhead valves remotely from the Pyrenees Venture FPSO. This is an open loop system, with approximately 1 L of control fluid discharged from the wellhead valves on the seabed when they are operated, which generally only occurs on restart of the process after a shutdown.

Open loop systems are the most commonly used system because of their superior safety performance and reliability. Use of a closed loop system was considered during design of the facility, which recycles control fluids. However, this was not considered feasible due to the limitations of closed loop systems on the speed of valve operation and hence a greater potential for escalation of risks.

Open loop subsea control systems are an industry standard. Given the low volumes discharged during each event, and the limited number of release events, the potential impacts of this discharge are expected to be very localised, with only a slight impact on the marine environment. Consequently, the overall environmental impact is considered to be low.

Minor quantities of other subsea chemicals or hydrocarbons may be released during subsea intervention works or subsea inspection, maintenance and repair activities (refer Table 3-14 for example activities). An indicative list of chemicals used in the Pyrenees Facility subsea systems are listed in Section 3, all of which have an OCNS colour banding of Gold. Due to the water depth, small quantities of release and short duration of release, these chemicals and hydrocarbons will rapidly disperse into the water column (refer Table 3-15).

In summary, the Pyrenees Facility surface water quality monitoring program is designed to measure the effect of marine discharges on the environment to ensure the controls (described below) are effective. Analysis of the water samples includes metals and hydrocarbon contaminants as well as nutrients to examine the potential effects, if any, discharges such as sewage and putrescible waste. The approach for management of marine discharges follows the framework for environmental management outlined in ANZG (2018) and described previously in Section 6.7.6.

There is potential for slight, localised decrease in water quality at planned discharge locations and potential impacts on marine biota. Within the mixing zone, impacts to pelagic fish are expected to be limited to avoidance of the localised area of the discharge and short-term, localised decline in planktonic organisms in the immediate vicinity of any discharge plume.

Produced formation water that is released subsea during non-routine maintenance and/or repair works is expected to have no more than minor impacts to water quality and species. Given the release would be a once off and the PW is expected to rapidly disperse in the water column with potential impacts being minor, temporary and in close proximity to the release site.

Liquid waste**Nutrient enrichment**

Discharged macerated food scraps to the marine environment are expected to be rapidly diluted, dispersed and assimilated. No measurable impact to surrounding water quality, outside of a very small, localised mixing zone is expected based on the low volumes of discharge within an open ocean environment.

Some fish and oceanic seabirds may be attracted to the Pyrenees Facility and support vessels by the discharge of food scraps. This attraction may be either direct in response to increased food availability or secondary as a result of prey species being attracted to the facilities. However, because the waste is macerated prior to discharge and the discharge volumes involved are small, the impact is expected to be low.

The most significant environmental impact associated with ocean disposal of sewage is eutrophication. Eutrophication occurs when the addition of nutrients, such as nitrates and phosphates, causes adverse changes to the ecosystem, such as oxygen depletion and phytoplankton blooms. The loading of total nitrogen (TN) and total phosphorus (TP) from sewage discharge from the Pyrenees Facility is estimated as follows:

- TN load: 0.16 to 0.50 kg/day
- TP load: 0.02 to 0.05 kg/day.

Food waste, a solid waste, is also a source of nutrient enrichment and is addressed in this section for the purpose of addressing cumulative effect. Studies on food waste on ships (Polglaze, 2003) have indicated average dry weight nutrient content of 2.4% TN and 0.4% TP. The total TN and TP loading from food waste discharge from the Pyrenees Facility is estimated as follows:

- TN load: 0.94 kg/day
- TP load: 0.16 kg/day.

The total nutrient load from sewage, grey-water and food waste from the Pyrenees Facility is estimated as follows:

- TN load: 1.10 to 1.44 kg/day
- TP load: 0.18 to 0.21 kg/day.

Although the North West Shelf is characterised as a low nutrient environment (Department of the Environment, Water, Heritage and the Arts, 2008) studies of adjacent waters have found the area to be "...a *highly productive ecosystem in which nutrients and organic matter are rapidly recycled*" (Furnas & Mitchell, 1999). The estimated daily loading is inconsequential in comparison to the daily turnover of nutrients in the area. The impact of nutrients associated with discharge of sewage, grey-water and putrescible waste is considered to be low because of the small mass relative to daily turnover, and the assimilative capacity of the receiving environment (open ocean).

Brine

Desalination brine has a greater density than seawater and is expected to sink and disperse in the currents when discharged. The brine is predicted to have a concentration of around 60 ppt. On this basis, the largest increase of salinity experienced would be approximately 10% in the immediate vicinity of the discharge point. Most species are able to tolerate short-term fluctuations in salinity in the order of 20 to 30% (Walker & McComb, 1990) and it is expected that most pelagic species in the area would be able to tolerate short-term exposure to the slight increase in salinity caused by discharge of the brine.

Deck drainage

Rainfall and wash down activities on the deck may result in minor quantities of chemical residues, such as detergent, oil and grease entering the deck drainage system and being possibly discharged overboard.

Firewater deluge testing and cooling water

Seawater is used for testing of the fire pump system. Seawater is directed through the firewater pumps and discharged overboard to the marine environment at a similar specification to that of cooling water.

Seawater is also used as a heat exchange medium for the cooling of machinery engines. Seawater is pumped on board then through heat exchangers and subsequently discharged with a temperature elevation in the order of 25°C above ambient. Approximately 48,000 m³/day of heated seawater is discharged from the system. When discharged to sea, the cooling water is subject to mixing and loss of heat to the surrounding waters.

The trajectory and dispersion of cooling water discharge have been modelled for a nominal discharge of 100,000 m³/day (and hence a conservative estimate of the estimated actual rate of 48,000 m³/day) at a water temperature of 46.3°C. The results indicate that at a flow of 100,000 m³/day there is a 50% probability of the temperature of surface water within 25 to 50 m of the discharge point exceeding ambient temperature by more than 2°C. The probability of surface water temperature exceeding the ambient temperature by more than 2°C decreases to 1% within about 60 to 85 m of the discharge point, depending on seasonal variations in the surface currents (Figure 6-5).

The area of detectable increase in seawater temperature is likely to be less than 10 m radius and as such the overall environmental impact of cooling water discharge considered to be low.

The residual copper in the cooling water discharged to the marine environment is estimated to be between 0.52 and 0.69 ppb (as estimated during studies of similar system undertaken by the US Uniform National Discharge Standards Program (US EPA, 1999)). At these low concentrations, the copper will rapidly dilute to ambient background levels on

discharge to the marine environment, and the discharge of copper is not expected to result in bioaccumulation. Copper is included as a parameter in the water quality monitoring program.



Figure 6-5: Predicted dispersion and temperature of cooling water discharge trajectory and dispersion of cooling water modelled for a nominal discharge of 100,000 m³ at a water temperature of 25°C above surrounding seawater

There is potential for slight, localised decrease in water quality at planned discharge locations and potential impacts on marine biota. Within the mixing zone impacts to pelagic fish are expected to be limited to avoidance of the localised area of the discharge and short-term, localised decline in planktonic organisms in the immediate vicinity of the discharge plume.

Sediment quality

Accumulation of contaminants in sediments (from subsea chemicals or hydrocarbon release), depends primarily on the volume/concentration of particulates in discharges or constituents that adsorb onto seawater particulates, the area over which those particulates could settle onto the seabed (dominated by current speeds and water depths), and the resuspension, bioturbation and microbial decay of those particulates in the water column and on the seabed. Valve actuation discharges are frequent but low in volume (typically <1 L per actuation). The subsea control fluid used in the open loop system (HT2) is water-based and has an OCNS rating of D with a substitution warning. The substitution warning is for the fluorescein dye which is approximately 150 ppm within the product, due to its low biodegradability. However, the product is non-toxic and does not have a potential to bioaccumulate. Once released the control fluid is expected to mix rapidly in the water column and become diluted, accumulation in sediments is not considered likely.

Given the frequency and volume of hydrocarbon releases and its buoyancy, accumulation in sediments is not considered likely.

Ecosystem/habitats

Sediments in the Operational Area are expected to be broadly consistent with those in the NWS Province such as sparsely populated silty/sandy sediment habitats (as described in Section 4.5), with filter feeders such as sponges, ascidians, soft corals and gorgonians associated with areas of hard substrate. The only areas of hard substrate expected in the vicinity are artificial habitat associated with subsea infrastructure. Impacts to ecosystems are not expected due to the localised nature of discharge plumes and potential for sediment quality impacts. Given the nature and scale of planned discharges, potential impacts are considered to be localised and negligible.

KEFs

The Operational Area of the Petroleum Activity overlaps two KEFs, namely the Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula and the Continental Slope Demersal Fish Communities. Treated sewage, grey water, macerated food waste, deck wash, brine and cooling water and subsea fluids generated during operations, will be managed consistently with MARPOL standards. This will result in volumes and quality of discharge being at a level

that is unlikely to result in any impacts to the ecosystem function of the KEFs with any impact being minor and temporary in nature.

Discharges from subsea control fluids may be discharged during wellhead values, which is limited to operational restart or shutdown of the wellheads. Given the small volume and infrequent discharge of subsea chemicals, any impact is likely to be highly localised and not have any impacts to the ecosystem function of the KEFs.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/ sacrifice (CS) ⁵⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
Contract vessels compliant with Marine Orders for safe vessel operations: - Marine Orders 91 (Marine pollution prevention – oil) - Marine Orders 95 (Marine pollution prevention – garbage) - Marine Orders 96 – (Marine pollution prevention – sewage).	F: Yes. CS: Minimal cost. Standard practice.	Marine Orders required under Australian regulations; implementation is standard practice for commercial vessels as applicable to vessel size, type and class. Marine Orders 91, 95 and 96 (pollution prevention) reduces the potential impact of marine wastewater discharges on water quality.	Controls based on legislative requirements – must be adopted.	Yes C 9.1
Good practice				
All operational chemicals intended or likely to be discharged to the marine environment will be assessed and approved through the Woodside chemical assessment process.	F: Yes. Routinely implemented to the chemical selection process for Woodside facilities. CS: Minimal cost. Standard practice.	Selection and assessment of chemicals in accordance with the Woodside process, reduces environmental impacts associated with planned chemical discharge.	Benefits outweigh cost/sacrifice.	Yes C 8.1
Subsea infrastructure flushed where practicable during IMMR intervention activities to reduce volume/concentration of residual hydrocarbons/ chemicals released to the environment.	F: Yes. CS Minimal cost. Standard practice.	Maintaining and testing the ability to isolate wells and pipelines will ensure barriers are in place and verified limiting the volume of hydrocarbon released.	Benefit outweighs cost/sacrifice.	Yes C 9.2
Limit volume of subsea control fluid discharged to the marine environment through monitoring subsea control fluid use and investigating material discrepancies.	F: Yes. The use of control fluid is monitored to maintain adequate fluid in the system. CS: Minimal cost.	Limits the volumes of subsea control fluid discharge to the marine environment.	Benefit outweighs cost/sacrifice.	Yes C 9.3

⁵⁸ Qualitative measure.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/ sacrifice (CS) ⁵⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
Professional judgement – Eliminate				
Storage, transport and treatment/disposal onshore of sewage, greywater, putrescible and bilge wastes.	F: No. Long term transport of waste onshore would present additional safety and hygiene hazards resulting from the storage, loading and transport of the waste material. CS: Not considered – control not feasible.	Not considered – control not feasible.	Not considered – control not feasible.	No
Professional judgement – Substitute				
Install closed-loop subsea valve control system.	F: Yes. Closed-loop subsea valve control systems can be installed, however, they may not perform as quickly/reliably as open-loop systems. CS: Significant. The design, procurement and retrofitting of a closed-loop valve control system would result in considerable offshore logistics, exposure to safety hazards during installation, and significant financial burden through direct costs and lost production.	The potential consequence of the discharges is ranked as incidental, based on the volume, frequency, location, and types of fluid discharged in an open-ocean environment, and avoiding the discharges would provide little or no environmental benefit.	When considering the negligible effect from the release of control fluids, the risk and costs of retrofitting a closed-loop subsea valve control system is considered to be grossly disproportionate to the environmental benefit.	No
Professional judgement – Engineered solution				
Open and closed drainage systems will be maintained in accordance with system requirements.	F: Yes. CS: Minimal cost. Standard practice.	The open hazardous drain system will be maintained to support appropriate disposal of environmentally hazardous liquids.	Benefits outweigh cost /sacrifice.	Yes C 9.4
Sewage treatment and discharge equipment onboard to treat sewage and reduce impact to the environment and maintained in good working order.	F: Yes. CS: Minimal cost. Standard practice.	The treatment and discharge equipment will be maintained to support the appropriate disposal of sewage.	Benefits outweigh cost/sacrifice.	Yes C 9.5

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/ sacrifice (CS) ⁵⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
Route hydrocarbons to vessel during disconnection of subsea infrastructure.	F: Yes. However, to do so would introduce significant safety risks to the vessel crew (fire, explosion, asphyxiation). CS: Significant. Equipping and training crew onboard subsea support vessels to safely route hydrocarbons to the vessel would result in significant additional costs (in addition to the increased safety risk identified above).	Small environmental benefit from preventing low concentration hydrocarbon discharge.	Given the increased safety risk and the very low environmental impact from hydrocarbon releases during subsea IMMR activities, the cost of routing hydrocarbons to the vessel is grossly disproportionate to the environmental benefit.	No
Decrease frequency of valve actuation.	F: Yes. However, decreasing the frequency of valve may adversely impact the safe functionality and reliability of valves. Reducing the performance of subsea valves may introduce operability impacts, and increased safety and environmental risk associated with loss of containment events. CS: Minimal cost.	The potential consequence of the discharges is ranked as incidental, based on the volume, frequency, location, and types of fluid discharged in an open-ocean environment, and reducing the number of discharges would provide little or no environmental benefit.	Decreasing the frequency of valve actuations would lead to a potential decrease in safe functionality and reliability of valves. When considering the potential safety and environmental risks from such a performance degradation, along with the minor impact from the release of control fluids, the cost of decreasing the frequency of valve actuations is considered to be grossly disproportionate to the environmental benefit.	No
Professional judgement – Procedures and administration				
Current International Sewage Prevention Pollution Certificate onboard Pyrenees Facility, OSV and IMMR vessels.	F: Yes. CS: Minimal cost. Standard practice.	Certification demonstrates vessel compliance with legislative requirements.	Controls based on legislative requirements – must be adopted.	Yes C 9.6
No contaminated deck drainage from the Pyrenees Facility directly to the environment unless authorised by the OIM.	F: Yes. CS: Minimal cost. Standard practice.	Supports implementation of Marine Orders.	Benefits outweigh and cost/sacrifice.	Yes C 9.7

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/ sacrifice (CS) ⁵⁸	Benefit in impact/risk reduction	Proportionality	Control adopted
Storage, handling and transport of wastes in accordance with the Waste Management Plan.	F: Yes. CS: Minimal cost. Standard practice.	Reduces the likelihood of a release of waste to the environment by providing guidance on storage, handling and transport of wastes.	Benefit outweighs cost/sacrifice.	Yes C 9.8
Environment awareness induction provided to all vessel crew to advise waste management requirements.	F: Yes. CS: Minimal cost. Standard practice.	Crew are aware of activities that are required to meet environmental obligations and therefore increasing the likelihood of waste being managed appropriately.	Benefits outweigh and cost/sacrifice.	Yes C 9.9
Cooling water flow rates and temperatures monitored at all times to ensure discharge specifications are met.	F: Yes. CS: Minimal cost. Standard practice.	Minimises any potential impacts from discharges of cooling water above flow rates and temperatures that are appropriate for the receiving environment.	Benefits outweigh and cost/sacrifice.	Yes C 9.10
Scupper plugs or equivalent deck drainage control measures available where chemicals and hydrocarbons are stored and frequently handled.	F: Yes. CS: Minimal cost. Standard practice.	Minimises any potential impacts from any unplanned releases.	Benefits outweigh and cost/sacrifice.	Yes C 9.11
ALARP statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts of planned routine and non-routine liquid waste and subsea chemical discharges. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact assessment has determined that, given the adopted controls, planned routine and non-routine hydrocarbon and chemical discharges represents a localised, minor impact that is unlikely to result in a lasting potential impact on water quality, marine sediment or ecosystem habitat. Further opportunities to reduce the impacts have been investigated above. Fluid discharges from the subsea system during operations and IMMR activities are routine in the oil and gas industry. The adopted controls are considered good oil-field practice/industry best practice. The potential impacts are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts of planned routine and non-routine hydrocarbon and chemical discharges to a level that is tolerable and demonstrate that the EPOs are met.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
EPO 12 Impacts from routine and non-routine liquid waste and subsea fluid discharges will be limited to planned activities and impacts described as part of the Petroleum Activity.	C 9.1 Vessels compliant with Marine Orders for safe vessel operations: - Marine Orders 91 (Marine pollution prevention – oil) - Marine Orders 95 (Marine pollution prevention – garbage) - Marine Orders 96 – (Marine pollution prevention – sewage).	PS 9.1 Vessels compliant with Marine Orders as applicable to vessel size, type and class.	MC 9.1 Marine verification records demonstrate compliance with standard maritime safety procedures (Marine Orders 91, 95 and 96).
	C 8.1 Refer to Section 6.7.6.	PS 8.1 Refer to Section 6.7.6.	MC 8.1 Refer to Section 6.7.6.
	C 9.2 Subsea infrastructure flushed where practicable during IMMR intervention activities to reduce volume/ concentration of residual hydrocarbons/ chemicals released to the environment.	PS 9.2 Subsea infrastructure containing hydrocarbons flushed (where practicable) to a hydrocarbon concentration where further dilution provides proportionate cost to environmental benefit, prior to disconnection. Appropriate isolations applied where practicable.	MC 9.2 Records demonstrate subsea infrastructure flushing and isolations applied where practicable.
	C 9.3 Limit volume of subsea control fluid discharged to the marine environment through monitoring subsea control fluid use and investigating material discrepancies.	PS 9.3 Subsea control fluid discharges will be monitored through subsea control fluid use and material discrepancies will be investigated.	MC 9.3 Records show subsea control fluid discharges are monitored through subsea control fluid use and material discrepancies have been investigated.
	C 9.4 Open and closed drainage systems will be maintained in accordance with system requirements.	PS 9.4 Open and closed drainage systems will be maintained in accordance with system requirements.	MC 9.4 Record of containment and drainage inspections.
	C 9.5 Sewage treatment and discharge equipment onboard Pyrenees Venture FPSO to treat sewage.	PS 9.5 Support vessel and Pyrenees Facility sewage treatment system will be certified under MARPOL and managed in compliance with MARPOL 73/78 Annex IV and V.	MC 9.5 Records indicate sewage treatment and discharge equipment to treat sewage is used and maintained in accordance with the maintenance system requirements.

	C 9.6 Pyrenees Facility, OSV and IMMR vessels International Sewage Prevention Pollution compliant.	PS 9.6 Current International Sewage Prevention Pollution Certificate.	MC 9.6 Record of current International Sewage Prevention Pollution certificate for Pyrenees Facility and support vessels.
	C 9.7 No contaminated deck drainage from the Pyrenees Venture FPSO directly to the environment unless authorised by the OIM.	PS 9.7 No contaminated deck drainage from the Pyrenees Venture FPSO directly to the environment unless authorised by the OIM.	MC 9.7 Incident reporting records demonstrate no deck drainage discharged to the environment without authorisation.
	C 9.8 Implementation of the Waste Management Plan.	PS 9.8 Implementation of the Waste Management Plan, including: - Waste shall be segregated and stored. - Records of all waste to be disposed, treated or recycled shall be maintained. They shall include (though not limited to) quantity of waste, waste type and disposal/ recycle location. - Waste streams shall be appropriately handled and managed according to their hazard and recyclability class. - All non-putrescible waste (excludes all food, greywater or sewage waste) shall be transported and disposed of onshore.	MC 9.8 Records demonstrate implementation of the Waste Management Plan.
	C 9.9 Environment awareness induction provided to all vessel crew to advise waste management requirements.	PS 9.9 Environmental awareness induction provided to vessel crew prior to activities to advise waste management requirements.	MC 9.9 Induction attendance records demonstrate that environmental awareness inductions have been conducted for vessel crew, including waste management information.
	C 9.10 Cooling water flow rates and temperatures monitored to ensure discharge specifications are met.	PS 9.10 Cooling water flow rates and temperatures monitored at all times to ensure discharge specifications are met.	MC 9.10 Records indicate cooling water flow rates and temperatures are monitored.
	C 9.11 Scupper plugs or equivalent deck drainage control measures available where chemicals and hydrocarbons are stored and frequently handled.	PS 9.11 Scupper plugs or equivalent deck drainage control measures available where chemicals and hydrocarbons are stored and frequently handled.	MC 9.11 Documentation that Shipboard Oil Pollution Emergency Plan (SOPEP) materials and equipment is maintained

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

			and available on vessels during Petroleum Activity.
--	--	--	---

* Defined as "Minor, temporary impact", as in Section 2.6.3.

6.8 Unplanned activities (accidents, incidents, emergency situations)

6.8.1 Quantitative spill risk assessment methodology

Quantitative hydrocarbon spill modelling was undertaken by RPS and GHD, on behalf of Woodside, using a three-dimensional (3D) hydrocarbon spill trajectory and weathering model, Spill Impact Mapping and Analysis Program (SIMAP), which is designed to simulate the transport, spreading and weathering of specific hydrocarbon types under the influence of changing meteorological and oceanographic forces.

A stochastic modelling scheme was followed in this study, whereby SIMAP was applied to repeatedly simulate the defined credible spill scenarios using different samples of current and wind data. These data samples were selected randomly from an historic time-series of wind and current data representative of the study area. Results of the replicate simulations were then statistically analysed and mapped to define contours of percentage probability of contact at identified thresholds around the hydrocarbon release point.

The model simulates surface releases and uses the unique physical and chemical properties of a hydrocarbon type to calculate rates of evaporation and viscosity change, including the tendency to form OIW emulsions. Moreover, the unique transport and dispersion of surface slicks and in-water components (entrained and dissolved) are modelled separately. Thus, the model can be used to understand the wider potential consequences of a spill, including direct contact of hydrocarbons due to surface slicks (floating hydrocarbon) and exposure of organisms to entrained and dissolved aromatic hydrocarbons in the water column.

During each simulation, the SIMAP model records the location (by latitude, longitude and depth) of each of the particles (representing a given mass of hydrocarbons) on or in the water column, at regular time steps. For any particles that contact a shoreline, the model records the accumulation of hydrocarbon mass that arrives on each section of shoreline over time, less any mass that is lost to evaporation and/or subsequent removal by current and wind forces.

The collective records from all simulations are then analysed by dividing the study region into a 3D grid. For surface hydrocarbons (floating oil), the sum of the mass in all hydrocarbon particles located within a grid cell, divided by the area of the cell, provides hydrocarbon concentration estimates in that grid cell at each model output time interval. For entrained and dissolved aromatic hydrocarbon particles, concentrations are calculated at each time step by summing the mass of particles within a grid cell and dividing by the volume of the grid cell. The process is also subject to the application of spreading filters that represent the expected mass distribution of each distinct particle. The concentrations of hydrocarbons calculated for each grid cell, at each time step, are then analysed to determine whether concentration estimates exceed defined threshold concentrations.

All hydrocarbon spill modelling assessments undertaken by RPS and GHD undergo initial sensitivity modelling to determine appropriate time to add to the simulation after the cessation of the spill. The amount of time following the spill is based on the time required for the modelled concentrations to practically drop below threshold concentrations anywhere in the model domain in the test cases. This assessment is done by post-processing the sensitivity test results and analysing time-series of median and maximum concentrations in the water and on the surface.

6.8.1.1 Hydrocarbon characteristics – Pyrenees crude

The relevant characteristics of the crude oils from the Pyrenees reservoirs are listed within Table 6-18.

Based on the ITOPI classification system, Pyrenees crude can be classified as a Group III oil. Group III oils can lose up to 40% by volume through evaporation. As a general rule, the higher the API of the oil (and the lower the specific gravity), the less persistent it will be after a spill.

The data collected on the well fluids suggest that, like the Ravensworth, Crosby and Stickle crude, each reservoir hydrocarbons were expelled from mature sediments that were deposited under sub-oxic (probably marine) conditions and contain a mixed marine and land-plant-influenced organic matter suite. Steranes based maturity parameters calculated from the branched-cyclics data indicate that all reservoir oil is essentially the same as Ravensworth, Crosby and Stickle crude. Therefore it is considered that the characteristics of all hydrocarbons returned to the Pyrenees Venture FPSO, processed, and stored in the cargo tanks are very similar and therefore considered to have the same characteristics (including weathering).

Based on the ITOPF classification and data analysis of the reservoir hydrocarbons, the characteristics of the most persistent reservoir crudes, hereafter referred to as 'Pyrenees crude' was used in the modelling and spill risk assessment for the crude spill scenarios (see the characteristics in Table 6-18).

Table 6-18: Characteristics of Pyrenees crude

Hydrocarbon type	Initial density (g/cm ³ at 15°C)	Viscosity (cP at 40°C)	Component	Volatiles <180°C	Semi- volatiles 180 to 265°C	Low volatility 265 to 380°C	Residual >380°C	Aromatic of whole product <380°C (boiling point)
			Boiling point (°C)	Non-persistent			Persistent	
Pyrenees crude	0.9378	55.5	% of total	0.6	8.5	36.13	54.4	14.18
			% aromatics	0.015	0.11	14.05	-	-

Weathering characteristics

The mass balance forecast for the constant-wind case (Figure 6-6) for Pyrenees crude shows that approximately 9.3% of the oil is predicted to evaporate within 24 hours. Under these calm conditions, most of the remaining oil on the water surface will weather at a slower rate due to being comprised of the longer-chain compounds with higher boiling points. Evaporation of the residual compounds will slow significantly, and they will then be subject to more gradual decay through biological and photochemical processes.

Under the variable-wind case (Figure 6-7), where the winds are of greater strength, entrainment of Pyrenees crude into the water column is indicated to be greater than the constant wind case. Approximately 24 hours after the spill, around 38.1% of the oil mass is forecast to have entrained and a further 8.9% is forecast to have evaporated. Due to the large proportions of heavy hydrocarbons that are persistent, 45.4% will remain on the surface after 24 hours. The residual compounds will tend to remain entrained beneath the surface under conditions that generate wind waves (approximately > 6 m/s).

The increased level of entrainment in the variable-wind case will result in a higher percentage of biological and photochemical degradation, where the decay of the floating slicks and oil droplets in the water column occurs at an approximate rate of 2.5% per day with an accumulated total of ~17.2% after seven days, in comparison to a rate of ~1.8% per day and an accumulated total of 11.5% after seven days in the constant-wind case. Given the large proportion of entrained oil and the tendency for it to remain mixed in the water column, the remaining hydrocarbons will decay and/or evaporate over time scales of several weeks to a few months. This long weathering duration will extend the area of potential effect, requiring the break-up and dispersion of the slicks and droplets to reduce concentrations below the thresholds considered.

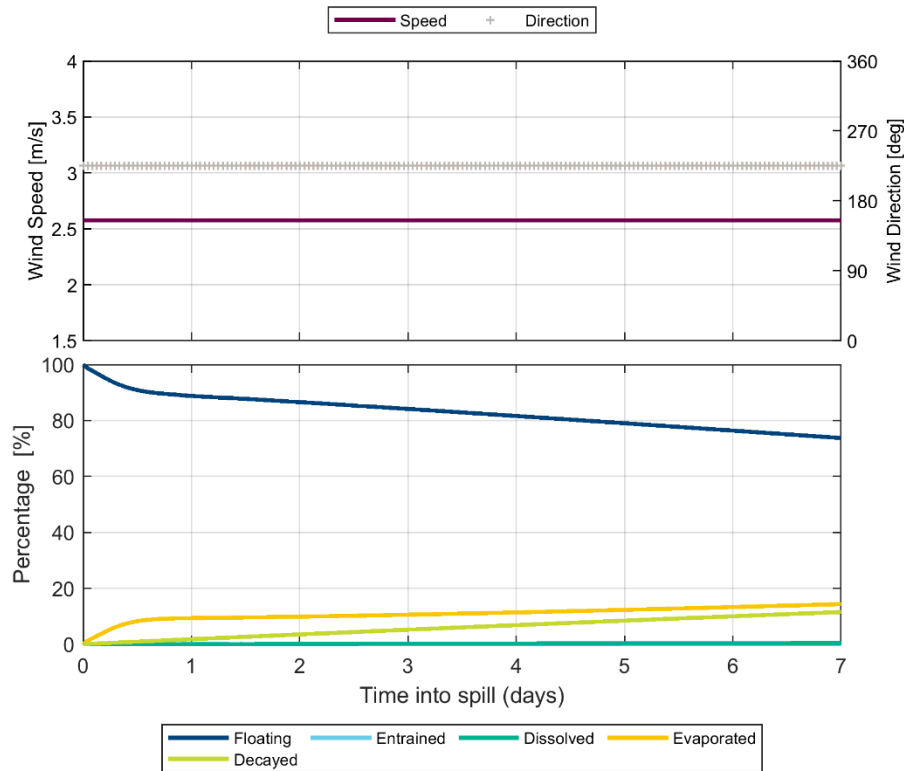


Figure 6-6: Mass balance of Pyrenees crude weathering for constant wind case

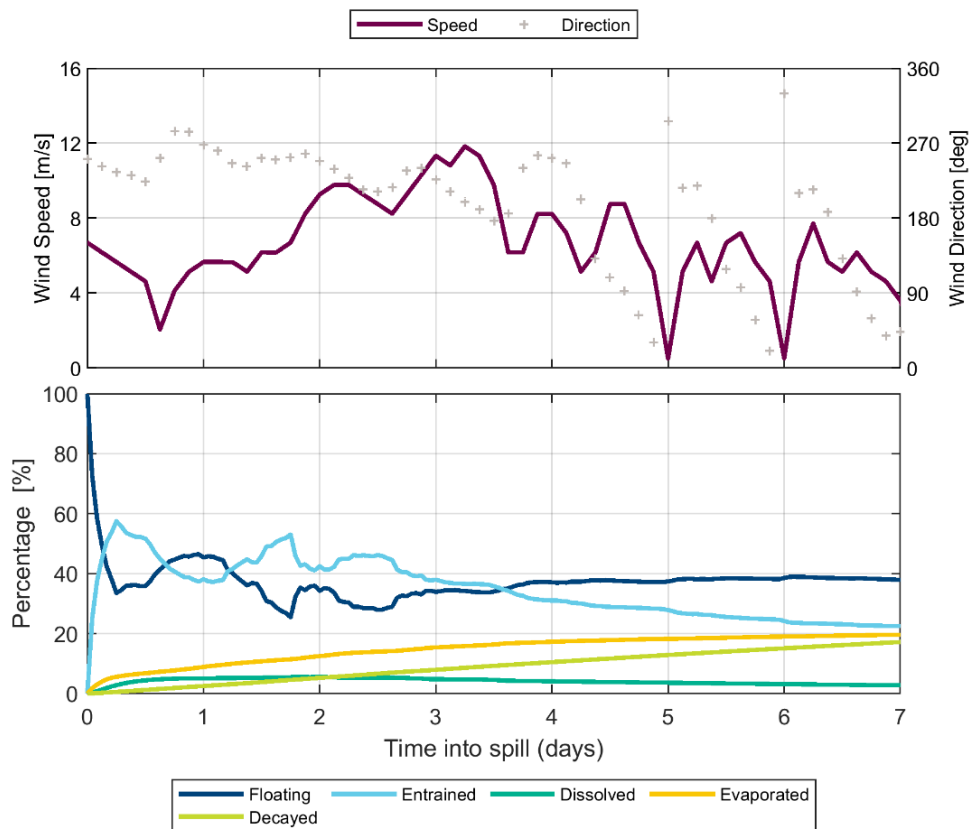


Figure 6-7: Mass balance of Pyrenees crude weathering for variable wind case

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

6.8.1.2 Environment that may be affected and hydrocarbon contact thresholds

The outputs of the quantitative hydrocarbon spill modelling are used to assess the environmental consequence by delineating which areas of the marine environment could be exposed to hydrocarbon levels exceeding selected hydrocarbon threshold concentrations if a credible hydrocarbon spill scenario occurred. The summary of the locations where hydrocarbon thresholds could be exceeded by any of the simulations modelled is defined as the EMBA. The EMBA covers a larger area than the area that is likely to be affected during any single spill event, as the model was run for a variety of weather and metocean conditions, and the EMBA represents the total extent of all the locations where hydrocarbon thresholds could be exceeded from all modelling runs.

As the weathering of different fates of hydrocarbons (surface, entrained and dissolved) differs due to the influence of the metocean mechanism of transportation, a different EMBA is presented for each hydrocarbon fate. Together, these EMBA have defined the spatial extent for the existing environment described in Section 4.

The spill modelling outputs are presented as areas that meet threshold concentrations for surface, entrained and dissolved hydrocarbons for the modelled scenarios. Surface spill concentrations are expressed as grams per square metre (g/m²), with entrained and dissolved aromatic hydrocarbon concentrations expressed as parts per billion (ppb). A conservative approach to selecting thresholds was taken by adopting the guideline impact thresholds (NOPSEMA, 2019) for surface, entrained, dissolved and accumulated hydrocarbons to define the EMBA for condensate spills from a loss of well control and loss of marine diesel. An additional threshold has been included to define the boundary within which socio-cultural impacts may occur, based on visible surface oil (1 g/m²) impacting on the visual amenity of the marine environment and is described below. Each of these hydrocarbon thresholds are presented in Table 6-19.

Table 6-19: Summary of thresholds applied to the quantitative hydrocarbon spill risk modelling results

Hydrocarbon type	Surface hydrocarbon (g/m ²)	Dissolved hydrocarbon (ppb)	Entrained hydrocarbon (ppb)	Accumulated hydrocarbon (g/m ²)	Operational and scientific monitoring (g/m ²)
Crude oil	10	50	100	100	1
Marine diesel	10	50	100	100	1

6.8.1.3 Operational and scientific monitoring

A planning area for operational and scientific monitoring is also described in the oil spill preparedness and response mitigation assessment (Appendix H). This planning area has been set with reference to the low exposure entrained value of 10 ppb detailed in the NOPSEMA (2019) oil spill modelling bulletin.

An operational and scientific monitoring program may be activated following a Level 2 or 3 unplanned hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors. This would consider receptors at risk (ecological and socio-economic) for the entire EMBA and in particular, any identified first-strike monitoring priorities for the worst-case credible spill scenario(s) or other identified unplanned hydrocarbon releases associated with the operational activities.

6.8.2 Unplanned hydrocarbon release: loss of well containment

Context														
Subsea infrastructure layout and description – Section 3.5 FPSO disconnected mode – Section 3.12.2							Physical environment – Section 4.4 Biological environment – Section 4.5				Consultation – Section 5			
Risks evaluation summary														
Source of risk	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Release of hydrocarbons resulting from loss of well containment		x	x	x	x	x	x	B	5 – Severe	Highly Unlikely	30	LCS GP RBA SV	Tolerable	EPO 13
Source of risk														
A loss of well containment can lead to an uncontrolled release of reservoir hydrocarbons or other well fluids to the environment. Woodside has identified a loss of well containment as the scenario with the worst-case credible environmental outcome as a result of this event. The causes of a loss of well containment may include, but are not limited to: - internal corrosion - external corrosion - erosion - overpressure of the annuli - fatigue - loss of control of suspended load from vessel (operating near subsea wells). Loss of well containment – credible scenario The Petroleum Activity includes production from a series of subsea wells. The worst-case credible hydrocarbon spill scenario involves a long-term (69-day) uncontrolled subsea release of 29,618 m³ of Pyrenees crude. The loss of well containment scenario was assumed to have a duration of 69 days. This duration is based on the estimated time required to successfully drill an intervention well. Quantitative spill risk assessment Spill modelling of the worst-case credible loss of well containment spill scenario was undertaken by RPS (2024), to determine the fate of hydrocarbons released based on the assumptions in Section 6.8.1. Modelling was undertaken over all seasons to address year-round operations. This is considered to provide a conservative estimate of the EMBA and the potential impacts from the identified worst-case credible release volumes for all loss of well containment scenarios. Hydrocarbon characteristics Hydrocarbon characteristics are provided in described in more detail in Section 6.8.1.1. Subsea plume dynamics The loss of well containment scenarios will result in a buoyant plume of hydrocarbons, which has been modelled using the OILMAP-Deep numerical model. Likelihood In accordance with the Woodside PetDW Risk Matrix, a worst-case loss of well containment has been defined as a 'highly unlikely' event. Information to support this likelihood determination is outlined below. This assessment considers the likelihood of the worst-case credible scenario occurring.														

A review of industry statistics indicates that the probability of a loss of well containment for production wells is low (10.6% of 292 recorded blowouts), relative to other activities in other hydrocarbon provinces (Gulf of Mexico and the North Sea), such as exploration drilling (31.5% of blowouts), development drilling (23.6% of blowouts) and well workovers (20.5% of blowouts) (SINTEF, 2017). Separate analysis of blowout data collected between 1991 and 2010 in the North Sea and the US Gulf of Mexico shows that only ten blowouts occurred during the production phase at a frequency of 1.36×10^{-5} blowouts per well year, with all these events occurring in the US Gulf of Mexico and none occurring in the North Sea (Scandpower, 2013). North Sea standards of well design and operation are considered to be aligned with those applied by Woodside, as outlined in the Pyrenees WOMP. This data quantitatively supports the likelihood ranking as described above.

Consequence

The spatial extent and fate (including weathering) of the spilled hydrocarbons were considered during the impact assessment for the identified worst-case loss of well containment scenario (presented in the following section). These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by GHD, available information on environmental sensitivities that may credibly be impacted in the event of either worst-case spill event, and relevant literature and studies considering the effects of hydrocarbon exposure. The consequence was considered to be Severe (5).

Consequence assessment

Environment that may be affected

Surface hydrocarbons

The stochastic modelled floating hydrocarbon EMBA from both loss of well containment is forecast to drift in all directions, reflecting the competing influence of both surface currents and winds across the wide area in which a large and persistent slick could travel over the long duration of the release. At the surface threshold of 10 g/m², floating oil is forecast to potentially occur up to approximately 130 km from the release site. The potential contact above impact thresholds at a number of receptors.

Entrained hydrocarbons

Stochastic modelling indicated entrained hydrocarbons are forecast to potentially drift in all directions, with the most likely directions of travel being to the south-west of the release site, due to the influence of the NWMR seasonal currents. The modelling indicated that the entrained hydrocarbon EMBA above the 100 ppb threshold concentrations could potentially occur up to 300 km for the loss of well containment scenario; contact above impact thresholds was forecast at a range of receptors.

Dissolved hydrocarbons

Dissolved hydrocarbons at the moderate threshold (50 ppb) were predicted to occur within up to ~400 km from the spill site, contact above impact thresholds was forecast at a range of receptors.

Accumulated hydrocarbons

Shoreline loading above the low threshold (>10 g/m²) was predicted to occur between the Walpole-Albany coastline to the south and Cox-Finnis coastline in Northern Territory to the north.

Summary of potential impacts to environmental value(s)

Table 6-20 presents the full extent of the EMBA for loss of well containment (within which all other credible hydrocarbon spill EMBA's are contained), i.e. the sensitive receptors and their locations that may be exposed to hydrocarbons (surface, entrained, dissolved and accumulated) at or above the set threshold concentrations in the unlikely event of a loss of well containment during the Petroleum Activity. Details of these receptors are outlined in Section 4. The potential biological and ecological impacts of an unplanned hydrocarbon release as a result of a loss of well containment during the Petroleum Activity are discussed in the following sections.

Table 6-20: Key receptor locations and sensitivities potentially contacted above impact thresholds by the loss of well containment scenario with summary hydrocarbon spill contact ≥1% probability

Environmental setting	Receptor	Environmental, social, heritage and economic aspects presented as per the Environmental Risk Definitions (Woodside’s Risk Management Procedure)																								Probability of hydrocarbon contact and fate (%)										
		Physical		Biological																		Socio-economic and cultural														
		Water quality	Sediment quality	Marine primary producers			Other communities/habitats					Protected species								Other species					Protected Areas/Heritage – European, Indigenous, Underwater Cultural Heritage	Offshore oil and gas infrastructure (topside and subsea)	Socio-economic EMBA		EMBA							
		Open water (pristine)	Marine sediment (pristine)	Coral reef	Seagrass beds/macroalgae	Mangroves	Spawning/nursery areas	Open water – productivity/upwelling	Non-biogenic reefs	Offshore filter feeders and/or deepwater benthic communities	Nearshore filter feeders	Sandy shores	Estuaries, tributaries, creeks, lagoons (including mudflats)	Rocky shores	Cetaceans – migratory whales	Cetaceans – dolphins and porpoises	Dugongs	Pinnipeds (sea lions, fur seals)	Marine turtles (foraging, interesting areas, significant nesting beaches)	Sea snakes	Whale sharks						Sharks and rays	Seabirds and migratory shorebirds	Pelagic fish populations	Demersal fish populations	Fisheries – commercial	Fisheries – traditional	Tourism and recreation	Surface hydrocarbon (1 to 10 g/m²)	Accumulated hydrocarbons (10 to 100 g/m²)	Surface hydrocarbons (≥10 g/m²)
Protected areas	Abrolhos Marine Park (MP)	✓	✓					✓						✓	✓		✓				✓	✓	✓	✓	✓		✓	✓		1	12	3	-	-	-	
	Argo-Rowley Terrace MP	✓	✓					✓						✓	✓			✓			✓	✓	✓	✓	✓		✓	✓	✓	2	-	-	-		-	
	Ashmore Reef MP	✓	✓	✓	✓		✓	✓			✓				✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓		-	3	-	-			
	Barrow Island MP	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7	21		13			
	Barrow Island Marine Management Area	✓	✓	✓	✓	✓	✓	✓			✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7	21		13			
	Cape Range National Park	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		18	54	1	39	5	4
	Carnarvon Canyon MP	✓	✓					✓		✓				✓	✓						✓	✓	✓	✓	✓			✓		7	-	-	-		1	
	Cartier Island MP	✓	✓	✓	✓		✓	✓			✓				✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓	✓		-	2		-		
	Dampier MP	✓	✓					✓		✓					✓	✓			✓	✓		✓	✓	✓	✓	✓			✓		1	10	4	-	-	-
	Eighty Mile Beach MP	✓	✓					✓		✓					✓	✓					✓	✓	✓	✓	✓	✓			✓		-	1	-		-	-
	Gascoyne MP	✓	✓					✓							✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	98	-	27	-	75	96
	Jurien MP	✓	✓		✓			✓		✓					✓	✓		✓			✓	✓	✓	✓	✓	✓			✓		-	2	-	-	-	-
	Lalang-garram /Camden Sound MP	✓	✓	✓	✓		✓	✓		✓					✓	✓	✓		✓	✓		✓	✓	✓	✓	✓			✓	✓		-	2			

Environmental setting	Receptor	Environmental, social, heritage and economic aspects presented as per the Environmental Risk Definitions (Woodside’s Risk Management Procedure)																								Probability of hydrocarbon contact and fate (%)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		Physical		Biological																		Socio-economic and cultural																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		Water quality	Sediment quality	Marine primary producers			Other communities/habitats					Protected species								Other species					Protected Areas/Heritage – European, Indigenous, Underwater Cultural Heritage	Offshore oil and gas infrastructure (topside and subsea)	Socio-economic EMBA		EMBA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		Open water (pristine)	Marine sediment (pristine)	Coral reef	Seagrass beds/macroalgae	Mangroves	Spawning/nursery areas	Open water – productivity/upwelling	Non-biogenic reefs	Offshore filter feeders and/or deepwater benthic communities	Nearshore filter feeders	Sandy shores	Estuaries, tributaries, creeks, lagoons (including mudflats)	Rocky shores	Cetaceans – migratory whales	Cetaceans – dolphins and porpoises	Dugongs	Pinnipeds (sea lions, fur seals)	Marine turtles (foraging, interesting areas, significant nesting beaches)	Sea snakes	Whale sharks						Sharks and rays	Seabirds and migratory shorebirds	Pelagic fish populations	Demersal fish populations	Surface hydrocarbon (1 to 10 g/m²)	Accumulated hydrocarbons (10 to 100 g/m²)	Surface hydrocarbons (≥10 g/m²)	Accumulated hydrocarbons (≥ 100 g/m²)	Entrained hydrocarbons (≥100 ppb)	Dissolved hydrocarbons (≥50 ppb)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										

Environmental setting	Receptor	Environmental, social, heritage and economic aspects presented as per the Environmental Risk Definitions (Woodside’s Risk Management Procedure)																								Probability of hydrocarbon contact and fate (%)										
		Physical		Biological																		Socio-economic and cultural														
		Water quality	Sediment quality	Marine primary producers			Other communities/habitats					Protected species								Other species					Protected Areas/Heritage – European, Indigenous, Underwater Cultural Heritage	Offshore oil and gas infrastructure (topside and subsea)	Socio-economic EMBA		EMBA							
Open water (pristine)	Marine sediment (pristine)	Coral reef	Seagrass beds/macroalgae	Mangroves	Spawning/nursery areas	Open water – productivity/upwelling	Non-biogenic reefs	Offshore filter feeders and/or deepwater benthic communities	Nearshore filter feeders	Sandy shores	Estuaries, tributaries, creeks, lagoons (including mudflats)	Rocky shores	Cetaceans – migratory whales	Cetaceans – dolphins and porpoises	Dugongs	Pinnipeds (sea lions, fur seals)	Marine turtles (foraging, interesting areas, significant nesting beaches)	Sea snakes	Whale sharks	Sharks and rays	Seabirds and migratory shorebirds	Pelagic fish populations	Demersal fish populations	Fisheries – commercial	Fisheries – traditional	Tourism and recreation		Surface hydrocarbon (1 to 10 g/m²)	Accumulated hydrocarbons (10 to 100 g/m²)	Surface hydrocarbons (≥10 g/m²)	Accumulated hydrocarbons (≥ 100 g/m²)	Entrained hydrocarbons (≥100 ppb)	Dissolved hydrocarbons (≥50 ppb)			
Islands	Ashmore	✓	✓	✓	✓		✓	✓				✓			✓	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓		-	3	-	-	-	-	-
	Ashburton	✓	✓		✓		✓		✓			✓		✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓	✓		3	9		5		
	Scott Reef and Browse Island	✓	✓	✓	✓		✓	✓			✓			✓	✓			✓	✓		✓	✓	✓	✓		✓	✓	✓		-	3	-	1	-	-	-
	Christmas Island	✓	✓	✓	✓	✓	✓	✓			✓			✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		-	22	-	6	-	-	-
	Rowley Shoals	✓	✓	✓			✓	✓						✓	✓			✓	✓		✓	✓	✓	✓	✓		✓	✓			13	-	8	-	-	-
	Abrolhos Islands	✓	✓	✓	✓	✓	✓				✓		✓	✓	✓		✓	✓			✓	✓	✓	✓	✓	✓		✓	✓		1	12	-	-	-	
	Barrow Island	✓	✓	✓	✓		✓	✓				✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		7	21		13		-
	Montebello Islands	✓	✓	✓	✓		✓	✓				✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		5	23		14		-
	Lowendal Islands	✓	✓	✓	✓		✓	✓				✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		4	18		11		-
	Muiron Islands	✓	✓	✓	✓		✓	✓			✓		✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		12	49		26	6	
	Dampier Archipelago	✓	✓	✓	✓	✓	✓				✓			✓	✓	✓			✓	✓		✓	✓	✓	✓	✓		✓	✓		1	10		4		
	Exmouth Gulf	✓	✓	✓	✓		✓				✓			✓	✓	✓			✓	✓		✓	✓	✓	✓	✓		✓	✓		3	7	-	5	-	-
	Kimberley	✓	✓	✓	✓	✓	✓	✓			✓			✓	✓	✓			✓	✓		✓	✓	✓	✓	✓		✓	✓			28		11		-
	Northern Pilbara	✓	✓		✓		✓			✓			✓		✓	✓			✓	✓		✓	✓	✓	✓	✓		✓	✓		3	10		6		-
	Perth Coast (Rottnest Island)	✓	✓		✓			✓		✓			✓		✓	✓		✓				✓	✓	✓	✓	✓		✓	✓			2	-	-	-	-
	Port Hedland to Eighty Mile Beach	✓	✓		✓	✓				✓				✓	✓	✓			✓			✓	✓	✓	✓	✓		✓	✓			4	-	-	-	-

Environmental setting	Receptor	Environmental, social, heritage and economic aspects presented as per the Environmental Risk Definitions (Woodside’s Risk Management Procedure)																										Probability of hydrocarbon contact and fate (%)						
		Physical		Biological																				Socio-economic and cultural										
		Water quality	Sediment quality	Marine primary producers			Other communities/habitats						Protected species								Other species					Protected Areas/Heritage – European, Indigenous, Underwater Cultural Heritage	Offshore oil and gas infrastructure (topside and subsea)	Socio-economic EMBA		EMBA				
Open water (pristine)	Marine sediment (pristine)	Coral reef	Seagrass beds/macroalgae	Mangroves	Spawning/nursery areas	Open water – productivity/upwelling	Non-biogenic reefs	Offshore filter feeders and/or deepwater benthic communities	Nearshore filter feeders	Sandy shores	Estuaries, tributaries, creeks, lagoons (including mudflats)	Rocky shores	Cetaceans – migratory whales	Cetaceans – dolphins and porpoises	Dugongs	Pinnipeds (sea lions, fur seals)	Marine turtles (foraging, interesting areas, significant nesting beaches)	Sea snakes	Whale sharks	Sharks and rays	Seabirds and migratory shorebirds	Pelagic fish populations	Demersal fish populations	Fisheries – commercial	Fisheries – traditional	Tourism and recreation		Surface hydrocarbon (1 to 10 g/m²)	Accumulated hydrocarbons (10 to 100 g/m²)	Surface hydrocarbons (≥10 g/m²)	Accumulated hydrocarbons (≥ 100 g/m²)	Entrained hydrocarbons (≥100 ppb)	Dissolved hydrocarbons (≥50 ppb)	
	Shark Bay	✓	✓		✓		✓			✓		✓		✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓		11	-	2	-	-	
	Thevenard	✓	✓	✓	✓		✓	✓		✓		✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	3	12		6			
	Southern Pilbara	✓	✓		✓		✓		✓		✓		✓		✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	5	32		19			
Mainland	Broome	✓	✓		✓		✓	✓			✓			✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	-	3	-	-	-	-	
	Ashburton	✓	✓		✓		✓		✓			✓		✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	3	8		5			
	Augusta to Walpole	✓	✓		✓		✓	✓			✓	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓	✓		✓	-	2	-		-	-	
	Cox-Finnis	✓	✓	✓	✓	✓	✓	✓		✓			✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓		1					
	Carnarvon	✓	✓	✓	✓			✓				✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	4	27	-	13			
	Derby – West Kimberley	✓	✓		✓		✓	✓				✓		✓	✓	✓		✓				✓	✓	✓	✓		✓	-	3	-	2	-	-	
	Eighty Mile Beach to Broome	✓	✓		✓		✓	✓			✓			✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓		1	-		-	-	
	Exmouth	✓	✓		✓		✓			✓		✓	✓		✓	✓	✓		✓	✓		✓	✓	✓	✓		✓	26	7	-	5	8	10	
	Geographe Bay to Augusta	✓	✓		✓		✓	✓				✓	✓		✓	✓		✓				✓	✓	✓	✓	✓		✓	-	1	-		-	-
	Geraldton to Jurien	✓	✓		✓			✓	✓			✓		✓			✓					✓	✓	✓	✓	✓		✓		2	-		-	-
	Jurien to Yanchep	✓	✓		✓			✓	✓			✓				✓		✓				✓	✓	✓	✓	✓		✓		2	-		-	-
	Kalbarri to Geraldton	✓	✓		✓			✓	✓			✓	✓		✓	✓						✓	✓	✓	✓	✓		✓		5	-		-	-
	Karratha to Port Hedland	✓	✓		✓		✓				✓	✓			✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓		10		4	-	-
	Middle Pilbara	✓	✓		✓	✓	✓		✓			✓		✓		✓	✓		✓	✓		✓	✓	✓	✓	✓		✓		9		6	-	-

Environmental setting	Receptor	Environmental, social, heritage and economic aspects presented as per the Environmental Risk Definitions (Woodside’s Risk Management Procedure)																									Probability of hydrocarbon contact and fate (%)											
		Physical		Biological																		Socio-economic and cultural																
		Water quality	Sediment quality	Marine primary producers			Other communities/habitats					Protected species								Other species					Protected Areas/Heritage – European, Indigenous, Underwater Cultural Heritage	Offshore oil and gas infrastructure (topside and subsea)	Socio-economic EMBA		EMBA									
		Open water (pristine)	Marine sediment (pristine)	Coral reef	Seagrass beds/macroalgae	Mangroves	Spawning/nursery areas	Open water – productivity/upwelling	Non-biogenic reefs	Offshore filter feeders and/or deepwater benthic communities	Nearshore filter feeders	Sandy shores	Estuaries, tributaries, creeks, lagoons (including mudflats)	Rocky shores	Cetaceans – migratory whales	Cetaceans – dolphins and porpoises	Dugongs	Pinnipeds (sea lions, fur seals)	Marine turtles (foraging, interesting areas, significant nesting beaches)	Sea snakes	Whale sharks						Sharks and rays	Seabirds and migratory shorebirds	Pelagic fish populations	Demersal fish populations	Fisheries – commercial	Fisheries – traditional	Tourism and recreation	Surface hydrocarbon (1 to 10 g/m²)	Accumulated hydrocarbons (10 to 100 g/m²)	Surface hydrocarbons (≥10 g/m²)	Accumulated hydrocarbons (≥ 100 g/m²)	Entrained hydrocarbons (≥100 ppb)
	Murujuga	✓	✓		✓	✓	✓		✓			✓			✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓	✓			2		-	-	-	
	Ningaloo	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓			57		39	8	9	
	Northern Pilbara	✓	✓		✓	✓	✓		✓			✓		✓	✓	✓			✓	✓		✓	✓	✓	✓	✓		✓		✓	✓	3	10		6		-	
	Perth Coast	✓	✓		✓			✓	✓			✓	✓	✓	✓	✓		✓				✓	✓	✓	✓	✓		✓		✓	✓			2	-	-	-	-
	Port Hedland to Eighty Mile Beach	✓	✓		✓		✓	✓			✓	✓	✓		✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓		✓	✓			4	-	-	-	-
	Roebuck	✓	✓		✓		✓	✓			✓	✓	✓		✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓		✓	✓			1	-	-	-	-
	Shark Bay	✓	✓		✓		✓		✓		✓	✓	✓			✓	✓		✓	✓		✓	✓	✓	✓	✓		✓		✓	✓			11	-	2	-	
	Southern Pilbara	✓	✓		✓	✓	✓		✓			✓		✓		✓	✓		✓	✓		✓	✓	✓	✓	✓		✓		✓	✓		2	8	-	4	-	-
	Walpole to Albany	✓	✓		✓			✓				✓	✓	✓		✓						✓	✓	✓	✓	✓		✓		✓	✓		-	1	-	-	-	-
	Wyndham – East Kimberley	✓	✓		✓		✓	✓			✓	✓	✓		✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓		✓	✓			2		1		
	Zuytdorp Cliffs to Kalbarri	✓	✓		✓		✓		✓		✓	✓		✓		✓			✓	✓		✓	✓	✓	✓	✓		✓		✓	✓			5	-		-	-
	Timor Leste	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓			-	6	-	-	-	-
	Indonesia	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓			-	6	-	-	-	-

Summary of potential impacts to environmental value(s)**Open water environment (near spill area)****Air quality**

A hydrocarbon release during a loss of containment has the potential to result in localised, temporary reduction in air quality and contribution of greenhouse gases to the global concentration of these gases in the atmosphere. Potential impacts from reduced air quality are expected to be minor, short-term and predominantly localised.

There is potential for human health effects for workers in the immediate vicinity of atmospheric emissions. The ambient concentrations of methane and VOCs released from diffuse sources is difficult to accurately quantify, although the behaviour and fate is predictable in open offshore environments as it is dispersed rapidly by meteorological factors such as wind and temperature. Methane and VOC emissions from a hydrocarbon release in such environments are rapidly degraded in the atmosphere by reaction with photo chemically-produced hydroxyl radicals.

Due to the unlikely occurrence of a loss of containment; the temporary nature of any methane or VOC emissions (from the weathering of liquid hydrocarbons from a loss of containment); the predicted behaviour and fate of methane and VOCs in open offshore environments; and the significant distance from the Operational Area to the nearest sensitive air shed (town of Exmouth approximately 40 km away), the potential impacts are expected to be minor and short-term.

Water quality

Water quality would be affected in the offshore environment within the EMBA due to hydrocarbon contamination from entrained, dissolved and surface hydrocarbons. Due to the weathering processes of the hydrocarbons, impacts to water quality are anticipated to be minor long term and/or significant short term as a result of hydrocarbon contamination above background levels.

Marine sediment quality

Floating, entrained and dissolved hydrocarbons (at or above the defined thresholds) are predicted to potentially contact shallow, nearshore waters of identified islands and mainland coastlines. Hydrocarbons may accumulate (at or above the ecological threshold) at a range of nearshore receptors. Such hydrocarbon contact may lead to reduced marine sediment quality by several processes, such as adherence to sediment and deposition shores or seabed habitat.

Studies of hydrocarbon concentrations in deep sea sediments in the vicinity of a catastrophic well blowout indicated hydrocarbon from the blowouts can be incorporated into sediments (Romero et al., 2015). Proposed mechanisms for hydrocarbon contamination of sediments include sedimentation of hydrocarbons and direct contact between submerged plumes and the seabed (Romero et al., 2015).

In the event of a major hydrocarbon release at the seabed, modelling indicates that a pressurised release of hydrocarbon would form droplets that would be transported into the water column to the surface (i.e. transported away from the seabed). As a result, the extent of potential impacts to the seabed area at and surrounding the release site would be largely confined to a localised footprint. Marine sediment quality would be reduced as a consequence of hydrocarbon contamination for a small area within the immediate release site for a long to medium term, as hydrocarbons in sediments typically undergo slower weathering and degradation (Diercks et al., 2010; Liu et al., 2012).

There is the potential for floating and entrained hydrocarbons to sink following extensive weathering and adsorption of sediment particles, which may result in the deposition of hydrocarbons to the seabed in areas distant from the release location. Such hydrocarbons are expected to be less toxic due to the weathering process.

Benthic fauna communities

In the event of a major release at the seabed, the stochastic spill model predicted hydrocarbons droplets would be entrained, rapidly transporting them to the sea surface. As a result, the low sensitivity benthic communities associated with the unconsolidated, soft sediment habitat and any epifauna (filter feeders) associated with the Canyon KEFs, and the Continental Slope Demersal Fish Communities KEF, refer to Section 4.7) within and outside the Operational Area are not expected to have widespread exposure to released hydrocarbons. Impacts are expected to be restricted to a localised area relating to the hydrocarbon plume at the point of release, which would result in a small area of seabed and associated epifauna and infauna exposed to hydrocarbons.

Heterotrophic, filter feeding organisms, such as sponges and gorgonians, have been identified as potentially occurring in the canyon features located within the wider EMBA. In the event of a major hydrocarbon release at the seabed, modelling indicates that a pressurised release of hydrocarbon would form droplets that would be transported into the water column to the surface (i.e. transported away from the seabed). As a result, hydrocarbon exposure to these deep-water filter-feeding communities is unlikely, and exposure at concentrations of ecological consequence is not expected to occur where these heterotrophic communities exist.

Evidence from the Deepwater Horizon spill in the Gulf of Mexico recorded low taxa richness and high nematode/harpacticoid-copepod ratios within 3 km of the release location and moderate impacts up to 17 km away (Montagna et al., 2013). The communities were likely exposed to dispersed hydrocarbons as the response included subsea dispersant application. A loss in benthic biodiversity has been correlated to a decline in deep-water ecosystem

functioning (Danovaro et al., 2008). The location of the petroleum activity and the EMBA largely affect continental shelf waters, which are shallower than the Deepwater Horizon spill, and as such may host more diverse infauna communities, although the impacts are considered to be similar. Therefore, a loss of well containment may result in localised but long-term effects on community structure.

Demersal and pelagic fish populations

Fish mortalities are rarely observed to occur as a result of hydrocarbon spills (ITOPF, 2011b). This has generally been attributed to the possibility that pelagic fish are able to detect and avoid surface waters underneath hydrocarbon spills by swimming into deeper water or away from the affected areas. Fish that have been exposed to dissolved aromatic hydrocarbons are capable of eliminating the toxicants once placed in clean water, so individuals exposed to a spill are likely to recover (King et al., 1996). Where fish mortalities have been recorded, the spills (resulting from the groundings of the tankers Amoco Cadiz in 1978 and the Florida in 1969) have occurred in sheltered bays.

Laboratory studies have shown that adult fish are able to detect hydrocarbons in water at very low concentrations, and large numbers of dead fish have rarely been reported after hydrocarbon spills (Hjermann et al., 2007). This suggests that juvenile and adult fish are capable of avoiding water contaminated with high concentrations of hydrocarbons. However, sub-lethal impacts to adult and juvenile fish may be possible, given long-term exposure (days to weeks) to PAH concentrations (Hjermann et al., 2007), which are typically the most toxic components of hydrocarbons. Light molecular weight aromatic hydrocarbons (i.e. one- and two-ring molecules) are generally soluble in water, which increases bioavailability to gill-breathing organisms such as fish. While modelling of the loss of well containment indicates the potential EMBA for dissolved hydrocarbons is extensive, no time-integrated exposure metrics were modelled; given the oceanographic environment within the wider EMBA, PAH exposures in the order of weeks for pelagic fish are not considered credible.

The effects of exposure to oil on the metabolism of fish appears to vary according to the organs involved, exposure concentrations and route of exposure (waterborne or food intake). Oil reduces the aerobic capacity of fish exposed to aromatics in the water and, to a lesser extent, affects fish consuming contaminated food (Cohen et al., 2005). The liver, a major detoxification organ, appears to be the organ where anaerobic activity is most impacted, probably increasing anaerobic activity to facilitate the elimination of ingested oil from the fish (Cohen et al., 2005).

Fish are perhaps most susceptible to the effects of spilled oil in their early life stages, particularly during egg and planktonic larval stages, which can become entrained in spilled oil. Contact with oil droplets can mechanically damage feeding and breathing apparatus of embryos and larvae (Fodrie & Heck, 2011). The toxic hydrocarbons in water can result in genetic damage, physical deformities and altered developmental timing for larvae and eggs exposed to even low concentrations over prolonged timeframes (days to weeks) (Fodrie & Heck, 2011). More subtle, chronic effects on the life history of fish as a result of exposure in early life stages to hydrocarbons include disruption to complex behaviours such as predator avoidance, reproductive and social behaviour (Hjermann et al., 2007). Prolonged exposure of eggs and larvae to weathered concentrations of hydrocarbons in water has also been shown to cause immunosuppression, and allows expression of viral diseases (Hjermann et al., 2007).

PAHs have also been linked to increased mortality and stunted growth rates of early life history (pre-settlement) of reef fishes, as well as behavioural impacts that may increase predation of post-settlement larvae (Johansen et al., 2017). However, the effect of a hydrocarbon spill on a population of fish in an area with fish larvae and/or eggs, and the extent to which any of the adverse impacts may occur, depends greatly on prevailing oceanographic and ecological conditions at the time of the spill and its contact with fish eggs or larvae.

The Continental Slope Demersal Fish Communities and the Canyons linking the Cuvier Abyssal Plain and the Cape Range KEF overlap the Operational Area. Species found on the continental slopes of these key ecological features been shown to host high levels of endemism (BMT Oceanica, 2016). Additionally, demersal species are associated with the Ancient Coastline KEF (~0.6 km from the Operational Area).

Mortality and sub lethal effects may impact populations located close to the well blow out and within the EMBA for entrained/dissolved aromatic hydrocarbons (≥ 100 and >50 ppb, respectively). Additionally, if prey (infauna and epifauna) surrounding the well location and within the EMBA is contaminated, this can result in the absorption of toxic components of the hydrocarbons (PAHs), potentially impacting fish populations that feed on these. These impacts may result in localised medium/long term impacts on demersal fish habitat (e.g. seafloor).

Hydrocarbons above ecological thresholds may subsequently impact populations located near to the release location for the worst-case spill scenario, with lethal impacts not considered likely in this offshore environment.

Protected places

Receptors

The Australian Marine Parks (AMPs) listed in Section 4.8 may be affected by a worst-case spill scenario. The AMPs were predicted to potentially be contacted by hydrocarbons in the event of a worst-case spill scenario include Ningaloo AMP, Gascoyne AMP, Montebello AMP, Dampier AMP, Shark Bay AMP, etc.

Impacts

The Gascoyne Marine Park is the closest AMP to the Operational Area (4 km) predicted to be contacted by hydrocarbons. Impacts to this AMP are discussed below. Impacts to the natural, cultural, heritage and socio-economic values of the other AMPs predicted to be contacted by hydrocarbons in a worst-case spill scenario are expected to be similar, however, of varying severity and duration due to their varying distances from the Operational Area (see Section 4.8).

Gascoyne Marine Park

The Gascoyne Marine Park comprises an area about 81,766 km². The Marine Park is assigned IUCN category IV and includes three zones assigned under this plan: National Park Zone (II), Habitat Protection Zone (IV) and Multiple Use Zone (VI). The AMP ranges in water depths from less than 15 m up to 6000 m.

The Gascoyne Marine Park is significant because it contains habitats, species and ecological communities associated with the Central Western Shelf Transition, Central Western Transition, and Northwest Province. It overlaps with the Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEF, Commonwealth waters adjacent to Ningaloo Reef KEF, continental slope demersal fish communities KEF, and the Exmouth Plateau KEF (see 'Key Ecological Features' above for a discussion of impacts to KEFs).

The AMP includes some of the most diverse continental slope habitats in Australia, in particular the continental slope area between North West Cape and the Montebello Trough. Canyons in the Marine Park link the Cuvier Abyssal Plain to the Cape Range Peninsula and are important for their role in sustaining the nutrient conditions that support the high diversity of Ningaloo Reef. The specific values of the AMP and associated impacts are summarised here.

Natural values – The AMP includes diverse benthic and pelagic fish communities and ancient coastline thought to be an important seafloor feature (KEF) and a migratory pathway for humpback whales (BIAs). The AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the AMP include breeding habitat for seabirds, interesting habitat for marine turtles, a migratory pathway for humpback whales, and foraging habitat and migratory pathway for pygmy blue whales.

Cultural values – There is limited information about the cultural significance of this AMP, however, it is noted that Sea Country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their Sea Country for tens of thousands of years. Potential impacts to cultural values of the AMP will closely tie in with the impacts to the natural values of the Marine Park, as addressed above and below; and range from moderate mid-term potential impacts to major long-term potential impacts.

Heritage values – There are no World, National or Commonwealth heritage listings within the AMP. However, the Ningaloo Coast World Heritage Property, the Ningaloo Marine Area (Commonwealth waters), and the Ningaloo Coast National Heritage areas are located adjacent to the Gascoyne AMP. Five historic shipwrecks are located within the Marine Park. Impacts to shipwrecks are discussed below under 'Cultural Heritage'.

Social and economic values – Commercial fishing, mining and recreation are important activities in the AMP. These activities contribute to the wellbeing of regional communities and the prosperity of the nation. A worst-case hydrocarbon spill scenario has the potential to result in impacts to these AMPs that range from moderate, medium-term to major, long-term, with the consequence severity dependent on the actual timing, duration and extent of a spill.

Key ecological features

KEFs potentially impacted by the hydrocarbon spill from a loss of well containment event are provided in Section 4.7. Although these KEFs are primarily defined by seabed geomorphological features, they are described to identify the potential for increased biological productivity and, therefore, ecological significance.

The consequences of a hydrocarbon spill from a loss of well containment event are predicted to result in moderate impacts to values of the KEFs affected (for the values of each KEF, see Section 4.7).

Potential impacts include contamination of sediments, impacts to benthic sediment fauna and associated impacts to demersal fish populations, and reduced biodiversity as described above and below. Most of the KEFs within the EMBA have relatively broad-scale distributions and are unlikely to be significantly impacted. KEFs within the EMBA that are not associated with broad-scale distributions are not expected to be impacted by floating hydrocarbons and contact with entrained and dissolved fractions is predicted to be very low/no contact. Hence, the environmental values of these KEFs are not expected to be impacted.

Protected species

Cetaceans

A range of cetaceans were identified as potentially occurring within the Operational Area and wider EMBA (Section 4.6.3). In the event of a loss of well containment, surface, entrained and dissolved hydrocarbons exceeding environmental impact threshold concentrations may drift across habitat for oceanic cetacean species and the migratory routes and BIAs of cetaceans considered to be MNES, including humpback whales, southern right whales, sperm whales, pygmy blue whales (northbound and southbound migrations), Australian snubfin dolphins, Indo-Pacific humpback dolphin and Indo-Pacific/spotted bottlenose dolphins.

Cetaceans that have direct physical contact with surface, entrained or dissolved aromatic hydrocarbons may suffer surface fouling, ingestion of hydrocarbons (from prey, water and sediments), aspiration of oily water or droplets, and

inhalation of toxic vapours (Deepwater Horizon Natural Resource Damage Assessment Trustees, 2016). This may result in the irritation of sensitive membranes such as the eyes, mouth, digestive and respiratory tracts and organs, impairment of the immune system, neurological damage (Helm et al., 2015), reproductive failure, adverse health effects (e.g. lung disease, poor body condition) and potentially mortality (Deepwater Horizon Natural Resource Damage Assessment Trustees, 2016).

Given the relatively low volatile fractions of the hydrocarbons, the area where potential impacts from inhalation may occur is expected to be localised around the release location. In a review of cetacean observations in relation to large scale hydrocarbon spills, it was concluded that exposure to oil from the Deepwater Horizon resulted in increased mortality to cetaceans in the Gulf of Mexico (Deepwater Horizon Natural Resource Damage Assessment Trustees, 2016). Long-term population level impacts to killer whales have been linked to the Exxon Valdez tanker spill (Matkin et al., 2008). Geraci (1988) has identified behavioural disturbance (i.e. avoiding spilled hydrocarbons) in some instances for several species of cetacean, suggesting that cetaceans have the ability to detect and avoid surface slicks.

However, observations during spills have recorded larger whales (both mysticetes and odontocetes) and smaller delphinids travelling through and feeding in oil slicks. During the Deepwater Horizon spill, cetaceans were routinely seen swimming in surface slicks offshore (and nearshore) (Aichinger Dias et al., 2017).

Cetacean populations that are resident within the EMBA may be susceptible to impacts from spilled hydrocarbons if they interact with an area affected by a spill. Such species are more likely to occupy coastal waters (refer to the Mainland and Islands section below for additional information). Suitable habitat for oceanic toothed whales (e.g. sperm whales) and dolphins (e.g. spinner dolphin) is broadly distributed throughout the region and as such, however impacts are unlikely to affect an entire population. Other species identified in Section 4.6.3 may also have possible transient interactions with the EMBA.

Pygmy blue whale and humpback whale

Pygmy blue whales and humpback whales are known to migrate seasonally through the wider EMBA, and the migration BIAs in the region for both species overlap the Operational Area. A major spill in May to November would coincide with humpback whale migration through the waters off the Pilbara, North West Cape and Shark Bay. A major spill in April to August or October to January would coincide with pygmy blue whale migration. Both pygmy blue and humpback whales are baleen whales, so are most likely to be significantly impacted by toxic effects when feeding. However, feeding during migrations is low level and opportunistic, with most feeding for both species in the Southern Ocean.

The entrained hydrocarbon EMBA includes pygmy blue whale foraging BIAs (closest being the Ningaloo Coast (approximately 14 km from Operational Area), humpback whale resting BIA at Exmouth Gulf (approximately 23 km away), southern right whale calving BIA at Perth coast (approximately 1108 km away), and sperm whale foraging BIA at Perth Canyon (approximately 1120 km away). Furthermore, the foraging, breeding and calving BIAs for the Australian snubfin dolphin, Indo-Pacific humpback dolphin and Indo-Pacific/spotted bottlenose dolphins (closest being Roebuck Bay for all, approximately 910 km) were identified within the entrained hydrocarbon EMBA. Fresh hydrocarbons (i.e. typically in the vicinity of the release location) may have a higher potential to cause toxic effects when ingested, while weathered hydrocarbons are considered to be less likely to result in toxic effects. As such, the risk of ingestion of hydrocarbons is low. Migrations of both pygmy blue whales and humpback whales are protracted through time and space (i.e. the whole population will not be within the EMBA), and as such, a spill from the loss of well integrity is unlikely to affect an entire population). The humpback whale resting area in Exmouth Gulf and the calving area in Camden Sound are not predicted to be contacted by surface, entrained or dissolved hydrocarbons above threshold concentrations.

A loss of well containment resulting in a well blowout could disrupt a significant portion of the humpback or pygmy blue whale populations. Such disruption could include behavioural impacts (e.g. avoidance of impacted areas), sublethal biological effects (e.g. skin irritation, irritation from ingestion or inhalation, reproductive failure) and, in rare circumstances, death. However, such disruptions or impacts are not predicted to impact the overall population viability of cetaceans, given the global distribution of these species.

Physical contact with hydrocarbons to these species is likely to have biological consequences, however, it is unlikely to affect an entire population and not predicted to impact on the overall population viability. Given cetaceans maintain thick skin and blubber, external exposure to hydrocarbons may result in irritation to skin and eyes. Entrained hydrocarbons may also be ingested, particularly by baleen whales which feed by filtering large volumes of water.

Dugongs

The following BIAs are present within the EMBA for the dugong in proximity to the North West Cape: calving, breeding, foraging (high density seagrass beds) and nursing.

Summary

A worst-case hydrocarbon spill scenario has the potential to result in moderate, medium-term impacts to offshore cetacean species, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' migratory movements and distributions.

Pinnipeds

Australian sea lions are found on and around the Abrolhos Islands, distant from the Operational Area, but within the wider EMBA. Given the considerable distance from the Operational Area to these receptors, and the time for floating and entrained hydrocarbons to contact (35 and 32 days respectively), entrained and floating hydrocarbons that do reach this area are likely to be weathered. There is the potential for sea lions to interact with floating and stranded hydrocarbons. This may result in diminished ability to thermoregulate due to the loss of insulation, potentially resulting in mortality. Potential impacts are expected to be minor and temporary at a population scale.

Marine turtles

Adult sea turtles exhibit no avoidance behaviour when they encounter hydrocarbon spills (NOAA, 2010). Contact with surface slicks, or entrained hydrocarbon, can therefore result in hydrocarbon adherence to body surfaces (Gagnon & Rawson, 2010) causing irritation of mucous membranes in the nose, throat and eyes, leading to inflammation and infection (NOAA, 2010). Oiling can also irritate and injure skin, which is most evident on pliable areas such as the neck and flippers (Lutcavage et al., 1995). A stress response associated with this exposure pathway includes an increase in the production of white blood cells, and even a short exposure to hydrocarbons may affect the functioning of their salt gland (Lutcavage et al., 1995).

Hydrocarbons in surface waters may also impact turtles when they surface to breathe and inhale toxic vapours. Their breathing pattern, involving large 'tidal' volumes and rapid inhalation before diving, results in direct exposure to petroleum vapours which are the most toxic component of the hydrocarbon spill (Milton & Lutz, 2003). This can lead to lung damage and congestion, interstitial emphysema, inhalant pneumonia and neurological impairment (NOAA, 2010). Contact with entrained hydrocarbons can result in hydrocarbon adherence to body surfaces, causing irritation of mucous membranes in the nose, throat and eyes and leading to inflammation and infection (Gagnon & Rawson, 2010).

Due to the absence of potential nesting habitat and location offshore, the Operational Area is unlikely to represent important habitat for marine turtles.

It is acknowledged that foraging marine turtles may be present foraging within the EMBA, and the EMBA would overlap with the BIAs identified in Section 4 and Appendix F, in particular the internesting BIAs and critical habitats for flatback turtles which extend for ~80 km from known nesting locations. It is noted by Woodside that the Petroleum Activity will overlap nesting seasons for marine turtles in the region.

In the event of a well blowout, there is potential that surface, entrained and dissolved hydrocarbons exceeding threshold concentrations will be present in offshore waters extending up to 950 km, 1,550 km and 1,250 km, respectively, from the release site. Therefore, a hydrocarbon spill may disrupt a portion of the population; however, there is no anticipated threat to overall population viability.

Potential impacts to nesting and inter-nesting marine turtles are discussed in the Mainland and Islands (nearshore) impacts discussion.

Summary

In the event of a loss of well containment, there is potential that surface, entrained and dissolved hydrocarbons exceeding environmental impact threshold concentrations will be present in offshore waters. Therefore, a hydrocarbon spill may disrupt a portion of marine turtle populations for the green, flatback, hawksbill, loggerhead and/or leatherback turtle. However, there is considered to be no threat to overall population viability given the non-persistent nature of predicted hydrocarbons.

Seasnakes

Impacts to seasnakes from direct contact with hydrocarbons are likely to result in similar physical effects to those recorded for marine turtles. They may include potential damage to the dermis and irritation to mucus membranes of the eyes, nose and throat (ITOPF, 2011a). They may also be impacted when they return to the surface to breathe and inhale the toxic vapours associated with the hydrocarbons, resulting in damage to their respiratory system.

In general, seasnakes frequent the waters of the continental shelf area around offshore islands and potentially submerged shoals (water depths <100 m; see Submerged Shoals below). It is acknowledged that seasnakes may be present in the Operational Area and are present in the wider EMBA; however, their abundance is not expected to be high in the deep water and offshore environment. Therefore, a hydrocarbon spill may disrupt a portion of seasnake populations, but there is no threat to overall population viability given their widespread distribution in tropical waters.

Sharks and rays

Hydrocarbon contact may affect whale sharks through ingestion (entrained/dissolved hydrocarbons), particularly if feeding. Whale sharks may transit offshore open waters when migrating to and from Ningaloo Reef, where they aggregate for feeding from March to July (see Mainland and islands (nearshore waters) below).

Whale sharks may also carry out opportunistic feeding in offshore waters and the Operational Area. The EMBA overlaps the whale shark migration and foraging BIA identified in Section 4.6.1 and Appendix F, within which whale sharks are seasonally present between April and October. Therefore, individual whale sharks that have direct contact with hydrocarbons within the spill-affected area may be impacted, but the consequences to migratory whale shark populations are likely to be minor. White sharks have foraging BIAs within the Southwest region that may be impacted by the hydrocarbon EMBA.

Impacts to sharks and rays may occur through direct contact with hydrocarbons and contaminate the tissues and internal organs, either through direct contact or via the food chain (consumption of prey). As gill breathing organisms, sharks and rays may be vulnerable to toxic effects of dissolved hydrocarbons (entering the body via the gills) and entrained hydrocarbons (coating of the gills inhibiting gas exchange). In the offshore environment, it is probable that pelagic shark species are able to detect and avoid surface waters underneath hydrocarbon spills by swimming into deeper water or away from the affected areas. Therefore, any impact on sharks and rays is predicted to be minor and only a temporary disruption.

Seabirds

Offshore waters are potential foraging grounds for seabirds associated with the coastal roosting and nesting habitat (e.g. Ningaloo, Muiron Islands and the Barrow/Montebello/Lowendal Island Group). There are confirmed foraging grounds off Ningaloo and the Barrow/Montebello/Lowendal Island Group. A BIA for the wedge-tailed shearwater (peak use August to April) overlaps with the Operational Area.

There are also a number of BIAs for seabirds and migratory shorebirds that overlap with the wider EMBA, as provided in Section 4.6.4 and Appendix F.

Seabirds and migratory birds are particularly vulnerable to contact with floating hydrocarbons, which may mat feathers. This may lead to hypothermia from loss of insulation and ingestion of hydrocarbons when preening to remove hydrocarbons; both impacts may result in mortality (Hassan & Javed, 2011). Seabirds generally do not exhibit avoidance behaviour to floating hydrocarbons. Physical contact of seabirds with surface slicks is by several exposure pathways, primarily immersion, ingestion and inhalation. Such contact with hydrocarbons may result in plumage fouling and hypothermia (loss of thermoregulation), decreased buoyancy and potential to drown, inability to fly or feed, anaemia, pneumonia and irritation of eyes, skin, nasal cavities and mouths (AMSA, 2013; International Petroleum Industry Environmental Conservation Association (IPIECA), 2004), and result in mortality due to oiling of feathers or the ingestion of hydrocarbons. Longer term exposure effects that may potentially impact seabird populations include a loss of reproductive success (loss of breeding adults) and malformation of eggs or chicks (AMSA, 2013).

A hydrocarbon spill may result in surface slicks disrupting a significant portion of the foraging habitat for seabirds, including BIAs identified for foraging birds which are generally associated with breeding habitat, and seabirds foraging in waters in proximity to these sites. Seabird distributions are typically concentrated around islands, so hydrocarbons in proximity to nesting/roosting areas may result in increased numbers of seabirds being impacted, with many species of seabirds, such as the wedge-tailed shearwater and species of tern, forage relatively close to breeding islands/colonies. This may lead to impacts upon foraging seabirds in the offshore environment; however, this is not expected to result in a threat to the overall population viability, given the relatively broad distributions of the seabird species.

Nearshore waters (mainland and island)

Marine sediment quality

Entrained and dissolved hydrocarbons (at or above the defined thresholds) are predicted to potentially contact shallow, nearshore waters of identified islands and mainland coastlines. Shoreline hydrocarbons may also reach a number of islands. Such hydrocarbon contact may lead to reduced marine sediment quality by several processes, such as adherence to sediment and deposition shores or seabed habitat.

Protected species

Cetaceans

Coastal populations of small cetaceans are known to reside or frequent nearshore waters, including the Ningaloo Coast, Muiron Islands, Montebello/Barrow/Lowendal Islands Group, Pilbara Southern and Northern Island Groups, Shark Bay, and a number of other nearshore and coastal locations including coastal areas of the Indonesian archipelago which may be potentially impacted by surface, entrained and dissolved hydrocarbons exceeding threshold concentrations in the event of a loss of well containment.

The predicted EMBA for surface, entrained and dissolved hydrocarbons extends past Exmouth Gulf and Shark Bay. These areas are known humpback whale aggregation areas during their annual southern migration (September to December); therefore, humpbacks moving into these aggregation areas may be exposed to hydrocarbons above thresholds levels. However, surface, entrained and dissolved hydrocarbons concentrations above thresholds are not expected within Exmouth Gulf itself. No floating hydrocarbon contact at or above threshold concentrations is expected for Camden Sound, an important calving area for humpback whales.

The potential impacts of exposure are as discussed previously in Offshore – cetaceans. However, nearshore populations of cetaceans are known to exhibit site fidelity and are often resident populations. Therefore, avoidance behaviour may have greater impacts to population functioning.

Nearshore dolphin species (e.g. spotted bottlenose dolphins) may exhibit higher site fidelity than oceanic species, although Geraci (1988) observed relatively little impacts beyond behavioural disturbance. Resident cetacean populations (e.g. numerous dolphin species) known to inhabit nearshore waters with the EMBA for surface hydrocarbons, such as the Laut Sawu Marine National Park, may experience impacts on feeding habitats that could disrupt a portion of the local population, but is not predicted to result in impacts on overall population viability of either dugongs or resident/coastal cetaceans.

A hydrocarbon spill may disrupt a portion of a migratory cetacean population in Indonesian waters, including blue whale and sperm whale populations. Such disruption could include behavioural impacts (e.g. avoidance of impacted areas), sub-lethal biological effects (e.g. skin irritation, irritation from ingestion or inhalation) and, in rare circumstances, death. However, such disruptions or impacts are not predicted to impact on the overall population viability of migratory cetaceans within Indonesian waters.

Dugongs

Potential environment impacts may include the potential for dugongs to ingest hydrocarbons when feeding on oiled seagrass stands, or indirect impacts to dugongs due to loss of this food source due to dieback in worse affected areas. Furthermore, nearshore populations of dugongs are known to exhibit site fidelity and are often resident populations. Therefore, avoidance behaviour may have greater impacts to population functioning.

Hydrocarbon spill modelling indicates that surface hydrocarbons exceeding threshold concentrations may extend into the Lesser Sunda and Southern Java ecoregions of Indonesia, potentially exposing migratory and resident dugongs.

Summary

A hydrocarbon spill may have an impact on feeding habitats and disrupt a significant portion of the local population, but it is not predicted to result in impacts on overall population viability of either dugongs or coastal cetaceans.

Pinnipeds

Australian sea lions are found in the Houtman Abrolhos Islands Nature Reserve and Ngari Capes Marine Park, distant from the Operational Area but within the wider EMBA. Given the considerable distance from the Operational Area to these receptors, and the lengthy time for surface and entrained hydrocarbons to contact (minimum 25 days for the Abrolhos Islands), surface or entrained hydrocarbons that do reach this area are likely to be weathered.

Hydrocarbons accumulating on shorelines at haul-out locations may result in oiling of sea lions. Oiling may inhibit the ability for sea lions to thermoregulate, potentially resulting in mortality through hypothermia. Oiled sealions may also ingest hydrocarbons when attempting to clean themselves, potentially resulting in toxic effects.

Marine turtles

Several marine turtle species utilise nearshore waters and shorelines for foraging and breeding (including inter-nesting), with significant nesting beaches along the mainland coast and islands in potentially impacted locations such as the Ningaloo Coast, Muiron Islands, Montebello/Barrow/Lowendal Islands Group, Pilbara Islands (Northern and Southern Island Groups), Shark Bay, Scott Reef, Ashmore Reef and the southern Indonesian archipelago. There are distinct breeding seasons as detailed in Section 4. The nearshore waters of these turtle habitat areas may be exposed to surface, entrained or dissolved hydrocarbons exceeding threshold concentrations, and accumulated hydrocarbons above threshold concentrations.

The behaviour and biology of marine turtles makes these species relatively vulnerable to population-scale impacts compared to other fauna, such as dugongs. All species of marine turtles exhibit high nesting site fidelity by females, with gene flow between populations primarily mediated by movements of male turtles (FitzSimmons et al., 1997). Additionally, marine turtles rely on nesting beaches to reproduce, which makes them vulnerable to impacts from spilled hydrocarbon accumulations on shorelines through oiling of nesting females and emergent hatchlings, and disturbance of nests from spill response activities (Lauritsen et al., 2017). A spill during nesting and hatching season poses an increased risk to marine turtle populations.

A number of BIAs have been identified for marine turtles, including aggregation, nesting, internesting, mating and foraging areas. A hydrocarbon spill above impact thresholds in these areas may result in impacts to biologically important behaviours. During the breeding season, turtle aggregations near nesting beaches within the wider EMBA are most vulnerable due to greater turtle densities, and potential impacts may occur at the population level of some marine turtle species.

The islands within the Lesser Sunda and Southern Java Ecoregions provide habitat for marine turtles, with the Laut Sawu Marine National Park in particular identified as providing habitat for five species of marine turtles – green, leatherback, olive ridley, loggerhead and flat back turtles. The potential impacts to marine turtles in Indonesian waters contacted by the surface hydrocarbon EMBA and those contacted by accumulated hydrocarbons on shorelines are likely to be similar to those described above for Offshore – marine turtles and Mainland and islands (nearshore waters) – marine turtles.

The potential impacts of exposure are as discussed previously in Offshore – marine turtles. In the nearshore environment, turtles can ingest hydrocarbons when feeding (e.g. on oiled seagrass stands/macroalgae), or can be indirectly affected by loss of food source (e.g. seagrass due to dieback from hydrocarbon exposure) (Gagnon & Rawson, 2010). In addition, hydrocarbon exposure can impact turtles during the breeding season at nesting beaches. Contact with gravid adult females or hatchlings may occur on nesting beaches (accumulated hydrocarbons) or in nearshore waters (entrained hydrocarbons) where hydrocarbons are predicted to make shoreline contact.

Results from studies of nesting beaches subject to extensive oil pollution from the Deepwater Horizon spill indicated a significant reduction (approximately 44%) in turtle nest density during the nesting season immediately following the spill (Lauritsen et al., 2017). Lauritsen et al. (2017) partially attributed this reduction to direct (e.g. direct mortality of adults due to oiling or toxicity) and indirect (e.g. shoreline disturbance from response activities) impacts from the spill. There was a significant increase in nesting density in the years immediately following the spill, with nesting density returning to levels comparable to pre-spill densities within two nesting seasons (Lauritsen et al., 2017). This indicates

that adult female turtles that avoided mortality may have deferred nesting during the spill until subsequent years. The significant decline in nesting density observed following the Deepwater Horizon spill represents a decline of approximately 36% of reproductive output of the turtle population in the study area (Lauritsen et al., 2017); given turtles may take over a decade to reach sexual maturity, the effects of such a reduction in reproductive output may take over a decade to appear in nesting related metrics (which are commonly used to monitor turtle populations).

Based on the deterministic modelling results and the potential for impact and recovery of turtles, a worst-case hydrocarbon spill from a loss of well containment may result in reduced turtle numbers and nesting density; however, it would not be expected to result in elimination of a population. Impacts and subsequent recovery may take decades to occur. To date, no oil spills have been demonstrated to have resulted in elimination of a turtle population at any scale (Yender & Mearns, 2010). Disastrous spills impacting important turtle habitat (including nesting areas) have not been shown to eliminate turtle populations, although direct and indirect impacts have been documented (e.g. Lauritsen et al., 2017; McDonald et al., 2017; Stacy et al., 2017; Vander Zanden et al., 2016). Turtle populations have been shown to be able to recover, even when populations have been reduced to small sizes after experiencing significant declines (Mazaris et al., 2017). As such, population scale impacts to marine turtles from a worst-case loss of well containment would be expected to exhibit recovery, although may take several decades to reach pre-impact population levels due to the relatively long lifespan and late sexual maturity of marine turtle species.

Seasnakes

Impacts to sea snakes for the mainland and island nearshore waters from direct contact with hydrocarbons may occur and may include potential damage to the dermis and irritation to mucous membranes of the eyes, nose and throat (ITOPF, 2011a).

Fish

Fish (and other commercially targeted taxa) in their early life stages (eggs, larvae and juveniles) are at their most vulnerable to lethal and sub-lethal impacts from exposure to hydrocarbons, particularly if a spill coincides with spawning seasons or reaches nursery areas close to the shore (e.g. seagrass and mangroves) (ITOPF, 2011a). Fish spawning (including for commercially targeted species such as snapper and mackerel) occurs in nearshore waters at certain times of the year, and nearshore waters are also inhabited by higher numbers of juvenile fishes than offshore waters.

Modelling indicated that, in the unlikely event of a major spill, there is potential for entrained or dissolved hydrocarbons to occur in the surface water layers above threshold concentrations in nearshore waters (e.g. Ningaloo Coast, the Muiron Islands, Montebello/Barrow/Lowendal Islands Group, Pilbara Southern and Northern Islands Groups, Shark Bay and the Abrolhos Islands). This has the potential to result in lethal and sublethal impacts to a portion of fish larvae in areas contaminated above impact thresholds, depending on concentration and duration of exposure and the inherent toxicity of the hydrocarbon. Although there is the potential for spawning/nursery habitat to be impacted (e.g. mangroves and seagrass beds, discussed above), losses of fish larvae in worst affected areas are unlikely to be of major consequence to fish stocks compared with significantly larger losses through natural predation, and the likelihood that most nearshore areas would be exposed is low (i.e. not all areas in the region would be affected). This is supported by a recent study in the Gulf of Mexico which used juvenile abundance data, from shallow-water seagrass meadows, as indices of the acute, population-level responses of young fishes to the Deepwater Horizon spill. Results indicated that there was no change to the juvenile cohorts following the Deepwater Horizon spill. Additionally, there were no significant post-spill shifts in community composition and structure, nor were there changes in biodiversity measures (Fodrie & Heck, 2011). Any impacts to spawning and nursery areas are expected to be minor and short term, as would flow-on effects to adult fish stocks into which larvae are recruited.

Sharks and rays

Whale sharks and manta rays are known to frequent the Ningaloo Reef system and the Muiron Islands (forming feeding aggregations in late summer/autumn). The Indonesian islands of Komodo and Nusa Penida, Bali are also known to host significant manta ray populations.

Whale sharks and manta rays generally transit along the nearshore coastline and are vulnerable to surface, entrained and dissolved aromatic hydrocarbon spill impacts, with both taxa having similar modes of feeding. Whale sharks are versatile feeders, filtering large amounts of water over their gills, catching planktonic and nektonic organisms (Jarman & Wilson, 2004). Whale sharks at Ningaloo Reef have been observed using two different feeding strategies, including passive sub-surface ram-feeding and active surface feeding (Taylor, 2007). Passive feeding consists of swimming slowly at the surface with the mouth wide open. During active feeding, sharks swim high in the water with the upper part of the body above the surface with the mouth partially open (Taylor, 2007). These feeding methods would result in the potential for individuals that are present in worst affected spill areas to ingest potentially toxic amounts of surface, entrained or dissolved aromatic hydrocarbons into their body. Large amounts of ingested hydrocarbons may affect their endocrine and immune system in the longer term. The presence of hydrocarbons may displace whale sharks from the area where they normally feed and rest, and potentially disrupt migration and aggregations to these areas in subsequent seasons. Whale sharks may also be affected indirectly by surface, entrained or dissolved aromatic hydrocarbons through the contamination of their prey. The preferred food of whale sharks are fish eggs and phytoplankton which are abundant in the coastal waters of Ningaloo Reef in late summer/autumn, driving the annual arrival and aggregation of whale sharks in this area. If the spill event were to occur during the spawning season, this important food supply (in worse spill affected areas of the reef) may be diminished or contaminated. The

contamination of their food supply and the subsequent ingestion of this prey by the whale shark may also result in long term impacts as a result of bioaccumulation.

There is the potential for other resident shark and ray (e.g. sawfish species identified in Section 4.6.1) populations to be impacted directly from hydrocarbon contact or indirectly through contaminated prey or loss of habitat. However, it is probable that shark species will move away from the affected areas.

Shark populations displaced or no longer supported due to habitat loss would be expected to redistribute to other locations. Therefore, the consequences to resident shark and ray populations (if present) from loss of habitat, may result in a disruption to a significant portion of the population; however, it is not expected to impact the overall viability of the population.

Seabirds

There is the potential for seabirds, and resident, non-breeding overwintering shorebirds that use the nearshore waters for foraging and resting, to be exposed to surface, entrained and dissolved hydrocarbons. This could result in lethal or sublethal effects. Although breeding oceanic seabird species can travel long distances to forage in offshore waters, most breeding seabirds tend to forage in waters near their breeding colony. This results in relatively higher seabird densities in these areas during the breeding season, making these areas particularly sensitive in the event of a spill.

Pathways of biological exposure that can result in impact may occur through ingestion of contaminated fish (nearshore waters) or invertebrates (intertidal foraging grounds such as beaches, mudflats and reefs). Ingestion can also lead to internal injury to sensitive membranes and organs (IPIECA, 2004). Whether the toxicity of ingested hydrocarbons is lethal or sublethal will depend on the weathering stage and its inherent toxicity.

Exposure to hydrocarbons may have longer term effects, with impacts to population numbers due to decline in reproductive performance and malformed eggs and chicks, affecting survivorship and loss of adult birds.

Important areas for foraging seabirds and migratory shorebirds are identified in Section 4.6.4. Suitable habitat or seabirds and shorebirds are broadly distributed along the mainland and nearshore island coasts within the EMBA. Of note are important nesting and resting areas, including (refer to Section 4.6.4 for additional information, including BIAs within the wider EMBA):

- Muiron Islands
- Ningaloo Coast
- North West Cape
- Montebello/Barrow/Lowendal Islands Group (including known nesting habitats on Boodie, Double and Middle Islands)
- Pilbara Islands North and South Island Group
- Shark Bay
- Abrolhos Islands
- Ashmore Reef.

Therefore, a hydrocarbon spill may impact key feeding habitat and disrupt a significant portion of the habitat; however, this is not expected to threaten the overall population viability of seabirds or shorebirds.

Submerged shoals and banks

Protected species

Marine turtles

There is the potential for marine turtles to be present at submerged shoals such as Ningaloo Reef, Exmouth Reef Montebello Shoals, Barrow Island and Rowley Shoals. These shoals and banks may, at times, be foraging habitat for marine turtles, given the coral and filter feeding biota associated with these areas. Satellite tracking of individual green turtles in the nearshore environment of the NWS did not indicate any overlap of the tracked post-nesting migratory routes and the Operational Area. It is, however, acknowledged that individual marine turtles may be within the surrounding areas. Therefore, a hydrocarbon spill may have a minor disruption to a portion of the population (see offshore description above); however, there is no threat to overall population viability.

Seasnakes

There is the potential for seasnakes to be present at submerged shoals such as Exmouth Reef and Barrow Islands Reefs and Shoals. The potential impacts of exposure are as discussed previously in Offshore – seasnakes.

A hydrocarbon spill may disrupt a portion of the population but there is no threat to overall population viability. Seasnake species in Australia generally show strong habitat preferences (Heatwole & Cogger, 1993); species that have preferred habitats associated with submerged shoals and oceanic atolls may be disproportionately affected by a hydrocarbon spill affecting such habitat.

Sharks and rays

There is the potential for resident shark and ray populations to be impacted directly from hydrocarbon contact, or indirectly through contaminated prey or loss of habitat. Spill model results indicate potential impacts to the benthic communities of Barrow Islands Reefs and Shoals and Ningaloo Reef (modelling showed contact by entrained or dissolved hydrocarbons above threshold concentrations).

Pelagic sharks and rays are expected to move away from areas affected by spilled hydrocarbons. Impacts to such species are expected to be limited to behavioural responses/displacement. Shark and ray species that have associations with submerged shoals and oceanic atolls may not move in response to such habitat being contacted by spilled hydrocarbons. Such species may be more susceptible to a reduction in habitat quality resulting from a hydrocarbon spill. Impacts to sharks and rays are likely to be localised, as they are comparable to other Australian reefs and the NWMR submerged shoals and banks. It is expected that there will be no impacts at the population level.

All settings**Coral reefs****Receptors**

The quantitative spill risk assessment and EMBA indicate there would be potential for coral reef habitat to be exposed to surface, dissolved and entrained hydrocarbons. There would be potential for surface, entrained and dissolved hydrocarbons above threshold concentrations to reach reef habitat along the Ningaloo coast and at identified offshore islands such as the Muiron Islands, Montebello/Barrow/Lowendal Islands Group, Pilbara Southern Islands Group, Shark Bay, Abrolhos Islands, Ashmore Reef and southern Indonesian islands.

Impacts

The shallow coral habitats are most vulnerable to hydrocarbon coating by direct contact with surface slicks during periods when corals are tidally-exposed at spring low tides. Water soluble hydrocarbon fractions associated with surface slicks are also known to cause high coral mortality via direct physical contact of hydrocarbon droplets to sensitive coral species (such as the branching coral species) (Shigenaka, 2001). The duration of surface slick contact with the reef flat may be reduced, as the slick will likely be lifted off the reef by the flooding tide; however, exposure will be prolonged where hydrocarbons adhere. There is significant potential for lethal impacts due to the physical hydrocarbon coating of sessile benthos, with likely significant mortality of corals (adults, juveniles and established recruits) at the small spill affected areas. This particularly applies to branching corals, which are reported to be more sensitive than massive corals (Shigenaka, 2001).

Exposure to entrained hydrocarbons/dissolved aromatic hydrocarbons (≥ 100 and >50 ppb, respectively) has the potential to result in lethal or sublethal toxic effects to corals and other sensitive sessile benthos within the upper water column, including upper reef slopes (subtidal corals), reef flat (intertidal corals) and lagoonal (back reef) coral communities (with reference to Ningaloo Coast). Mortality in a number of coral species is possible, and this would result in the reduction of coral cover and change in the composition of coral communities. Sub-lethal effects to corals may include polyp retraction, changes in feeding, bleaching (loss of zooxanthellae), increased mucous production resulting in reduced growth rates, and impaired reproduction (Negri & Heyward, 2000). This could result in impacts to the shallow water fringing coral communities/reefs of the offshore islands (e.g. Muiron Islands, Barrow/Montebello/Lowendal Islands, Pilbara Southern and Northern Island Groups and Abrolhos Islands) and also the mainland coast (e.g. Ningaloo coast and Shark Bay).

With reference to Ningaloo Reef, wave-induced water circulation flushes the lagoon and may promote removal of entrained and dissolved hydrocarbons from this particular reef habitat. Under typical conditions, breaking waves on the reef crest induce a rise in water level in the lagoon, creating a pressure gradient that drives water in a strong outward flow through channels. These channels are across as much as 15% of the length of Ningaloo Reef (Taylor & Pearce, 1999).

Shoreline accumulation

As mentioned, shoreline accumulation was modelled to occur at a number of receptors. Shallow coral habitats (i.e. nearshore and intertidal waters) are most vulnerable to hydrocarbons through coating by direct contact with surface slicks during periods when corals are tidally-exposed at spring low tides. Water soluble hydrocarbon fractions associated with surface slicks are known to cause high coral mortality (Shigenaka, 2001) via direct physical contact of hydrocarbon droplets to sensitive coral species (such as the branching coral species). There is, therefore, potential for lethal impacts due to the physical hydrocarbon coating of sessile benthos by entrained hydrocarbons, with likely significant mortality of corals (adults, juveniles and established recruits) at the small spill affected areas. These impacts are particularly applicable to branching corals which are reported to be more sensitive than massive corals (Shigenaka, 2001).

Recruitment/spawning

In the unlikely event of a spill occurring at the time of coral spawning at potentially affected coral locations, or in the general peak period of biological productivity, there is the potential for a significant reduction in successful fertilisation and coral larval survival, due to the sensitivity of coral early life stages to hydrocarbons (Negri & Heyward, 2000). Such impacts are likely to result in the failure of recruitment and settlement of new population cohorts. In addition, some non-coral species may be affected via direct contact with entrained and dissolved aromatic hydrocarbons, resulting in sub-lethal impacts and in some cases mortality. This is with particular reference to the early life-stages of

coral reef animals (reef attached fishes and reef invertebrates), which can be relatively sensitive to hydrocarbon exposure. Coral reef fish are site-attached, have small home ranges, and as reef residents they are at higher risk from hydrocarbon exposure than non-resident, more wide-ranging fish species. The exact impact on resident coral communities (which may include fringing reefs of the offshore islands and/or the Ningaloo Reef system) will be entirely dependent on actual hydrocarbon concentration, duration of exposure and water depth of the affected communities.

Over the worst affected sections of reef habitat, coral community live cover, structure and composition is predicted to reduce, manifested by loss of corals and associated sessile biota. Recovery of these impacted reef areas typically relies on coral larvae from neighbouring coral communities that have either not been affected or only partially impacted. For example, there is evidence that Ningaloo Reef corals and fish are partly self-seeding, with the supply of larvae from locations within Ningaloo Reef of critical importance to the healthy maintenance of the coral communities (Underwood, 2009). Recovery at other coral reef areas may not be aided by a large supply of larvae from other reefs, with levels of recruits after a disturbance event only returning to previous levels after the numbers of reproductive corals had also recovered (Gilmour et al., 2013).

Therefore, a hydrocarbon spill may result in large-scale impacts to coral reefs, particularly Ningaloo Reef, with long-term effects (recovery >10 years) likely.

Submerged shoals

The waters overlying the submerged Ningaloo Reef, North West Reef and Tryal Rocks have medium to high probability to be exposed to entrained hydrocarbons above threshold concentrations (at or greater than 100 ppb). These permanently submerged habitats represent sensitive open water benthic community receptors, extending from deep depths to relatively shallow water. Potential biological impacts could include sub-lethal stress and, in some instances, total or partial mortality of sensitive benthic organisms such as corals and the early life stages of resident fish and invertebrate species. Other submerged shoals and banks within the wider EMBA (e.g. Barrow Island reefs and shoals, Exmouth Reef, Montebello shoals) are also predicted to be exposed to entrained or dissolved hydrocarbons above threshold concentrations, just at a lower probability. These submerged shoals and banks are also likely to be exposed to floating hydrocarbons above impact thresholds. Although the waters above these shoals may be contacted by surface slicks, any entrainment of surface hydrocarbons is likely to be restricted to the first few metres of the water column and is considered to pose limited potential for impact to marine primary producer habitats at these locations.

Non-biogenic reefs

The reef communities fringing the Pilbara region (e.g. Pilbara islands) may be exposed to surface or entrained hydrocarbons (at or above threshold concentrations) and consequently exhibit lethal or sub-lethal impacts resulting in partial or total mortality of keystone sessile benthos, particularly hard corals; thus, potential community structural changes to these shallow, nearshore benthic communities may occur. If these reefs are exposed to entrained or dissolved hydrocarbons, impacts are expected to result in localised long-term effects.

Productivity

Primary production by plankton (triggered by sporadic upwelling events in the offshore waters) is an important component of the primary marine food web. Planktonic communities are generally mixed, including phytoplankton (cyanobacteria and other microalgae), secondary consuming zooplankton (e.g. copepods), and the eggs and larvae of fish and invertebrates (meroplankton).

Exposure to hydrocarbons in the water column can result in changes in species composition, with declines or increases in one or more species or taxonomic groups (Batten et al., 1998). Phytoplankton may also experience decreased rates of photosynthesis (Tomajka, 1985). For zooplankton, direct effects of contamination may include suffocation, changes in behaviour, or environmental changes that make them more susceptible to predation. Impacts on plankton communities are likely to occur in areas where surface, entrained or dissolved aromatic hydrocarbon threshold concentrations are exceeded, but communities are expected to recover relatively quickly (within weeks or months). This is due to high population turnover, with copious production within short generation times that also buffers the potential for long-term (i.e. years) population declines (ITOPF, 2011a).

Nearshore waters and adjacent offshore waters surrounding the offshore islands (e.g. Muiron Islands, Montebello/Barrow/Lowendal Islands Group) and to the west of the Ningaloo Reef system are also known locations of seasonal upwelling events and productivity. The seasonal productivity events are critical to krill production, which supports megafauna aggregations such as whale sharks and manta rays in the region. This has the potential to result in lethal and sub-lethal impacts to a certain portion of plankton in affected areas, depending on concentration and duration of exposure and the inherent toxicity of the hydrocarbon. The submerged shoals of Ningaloo Reef and North West Reef are areas associated with sporadic upwelling and associated primary productivity events. Stochastic spill model results predict entrained hydrocarbons (at or above the 100 ppb threshold) may reach these shoals. However, recovery would occur. Therefore, any impacts are likely to be temporary and on exposed planktonic communities present in the EMBA.

Hydrocarbon contact during the spawning seasons for resident shoal community benthos and fish (meroplankton), particularly exposure to in-water toxicity effects to biota, may result in the loss of a discrete cohort population, but would not affect the longer-term viability of resident populations. Therefore, any impacts to resident shoal community benthos and fish (meroplankton) are likely to be temporary and localised at the shoals.

Filter feeders

Hydrocarbon exposure to filter-feeding communities (e.g. deepwater communities 20 THE 200 m) and nearshore filter feeders that are present (shallower water <20 m) may potentially be impacted by entrained/dissolved hydrocarbons.

Exposure to entrained hydrocarbons/dissolved aromatic hydrocarbons (≥ 100 and ≥ 50 ppb, respectively) has the potential to result in lethal or sub-lethal toxic effects. Sub-lethal impacts, including mucus production and polyp retraction, have been recorded for gorgonians exposed to hydrocarbon (White et al., 2012). Any impacts may result in localised long-term effects to community structure and habitat.

Offshore filter-feeding communities, include such as communities around Ningaloo Reefs or on hard substrate associated with the Canyons linking the Cuvier Abyssal Plain and Continental Slope Demersal Fish Communities KEF or other locations may be impacted depending on the depth of exposure. Nearshore filter feeder communities identified within the Ningaloo Marine Park (approximately 8 km from the Operational Area) may be exposed to hydrocarbons. Such impacts may result in localised, long-term effects to community structure and habitat.

Seagrass beds, macroalgae and mangroves

Spill modelling has predicted that surface, entrained and dissolved hydrocarbons above threshold concentrations have the potential to contact a number of shoreline sensitive receptors, such as those supporting biologically diverse, shallow subtidal and intertidal communities. The variety of habitat and community types, from the upper subtidal to the intertidal zones support a high diversity of marine life and are used as important foraging and nursery grounds by a range of invertebrate and vertebrate species. Depending on the trajectory of the surface and entrained/dissolved plume, macroalgal/seagrass communities including the Ningaloo Coast (patchy and low cover associated with the shallow limestone lagoonal platforms), Muiron Islands (associated with limestone pavements), the Barrow/Montebello/Lowendal Islands, Shark Bay, the Pilbara Southern Island Group (documented as low and patchy cover), the Northern Island Group, the Abrolhos Islands, the Kimberley Coast, Ashmore Reef and southern Indonesian islands have the potential to be exposed.

Seagrass in the subtidal and intertidal zones have different degrees of exposure to hydrocarbon spills. Subtidal seagrass is generally considered much less vulnerable to surface oil spills than intertidal seagrass, primarily because freshly spilled hydrocarbons, including crude oil, float under most circumstances. Dean et al. (1998) found that oil mainly affects flowering, therefore, species that are able to spread through apical meristem growth are not as affected (such as *Zostera*, *Halodule* and *Halophila* species).

Seagrass in the intertidal zone is particularly vulnerable, as it may come into direct contact with surface hydrocarbons, as well as entrained components, which can smother and kill seagrasses if it coats the leaves and stems (Taylor & Rasheed, 2011). This conclusion is supported by Howard et al. (1989) who noted that surface hydrocarbon spills which become stranded on the seagrass and smother it during the rise and fall of the tide can result in reduced growth rates, blackened leaves and mortality. Wilson & Ralph (2011) concluded that long-term impacts to seagrass are unlikely unless hydrocarbon is retained within the seagrass meadow for a sustained duration.

Toxicity effects can also occur due to absorption of soluble fractions of hydrocarbons into tissues (Runcie et al., 2010). The potential for toxicity effects of entrained hydrocarbons may be reduced by weathering processes that should serve to lower the content of soluble aromatic components before contact occurs. Exposure to entrained/dissolved aromatic hydrocarbons may result in mortality, depending on actual entrained/dissolved aromatic hydrocarbon concentration received and duration of exposure. Physical contact with entrained hydrocarbon droplets could cause sub-lethal stress, causing reduced growth rates and a reduction in tolerance to other stress factors (Zieman et al., 1984).

Mangrove habitat and associated mud flats and salt marsh at Ningaloo Coast (small habitat areas), the Pilbara islands, the Montebello Islands and southern Indonesian islands were identified within the EMBA. Hydrocarbons coating prop roots of mangroves can occur from surface hydrocarbons when hydrocarbons are deposited on the aerial roots. Hydrocarbons deposited on the aerial roots can block the pores used to breathe or interfere with the trees' salt balance, resulting in sub-lethal and potential lethal effects. Mangroves can also be impacted by entrained/dissolved aromatic hydrocarbons that may adhere to the sediment particles. In low energy environments such as in mangroves, deposited sediment-bound hydrocarbons are unlikely to be removed naturally by wave action and may be deposited in layers by successive tides (NOAA, 2014). The hydrocarbons comprise a proportion of persistent residual fractions; therefore, deposited hydrocarbons are likely to persist in the sediment, potentially causing chronic sub-lethal toxicity impacts beyond immediate physical and acute effects, which may delay recovery in an affected area. Recovery of mangroves from oil spills can take 20 to 30 years (NOAA, 2014); therefore, recovery from any impacts would be long-term (>10 years).

Sandy shores/estuaries/tributaries/creeks (including mudflats)/rocky shores

Shoreline exposure for the upper and lower areas differ. The upper shore has the potential to be exposed to surface slicks, while the lower shore is subjected to dissolved or entrained oil.

Potential impacts may occur due to surface hydrocarbon contact with intertidal areas, including sandy shores, mudflats and rocky shores. Hydrocarbons at sandy shores are incorporated into fine sediments through mixing in the surface layers from wave energy, penetration down worm burrows and root pores (IPIECA, 2000). Hydrocarbons in the intertidal zone can adhere to sand particles; however, high tide may remove some or most of the hydrocarbons back out of the sediments. Typically, hydrocarbons are only incorporated into the surface layers to a maximum of 10 cm (IPIECA, 2000). It is predicted that a number of sandy shores along the coastline may have accumulated hydrocarbons ≥ 100 g/m². As described earlier, accumulated hydrocarbons ≥ 100 g/m² could impact the survival and reproductive capacity of benthic epifaunal invertebrates living in intertidal habitat. The persistence of the hydrocarbons will be dependent on the wave exposure, but can be months to years.

The impact of oil on rocky shores is largely dependent on the incline and energy environment. On steep/vertical rock faces on wave exposed coasts, there is likely to be no impact from a spill event. However, a gradually sloping boulder shore in calm water can potentially trap large amounts of oil (IPIECA, 2000). The impact of the spill on marine organisms along the rocky coast will be dependent on the toxicity and weathering of the hydrocarbon. Similar to sandy shores, accumulated hydrocarbons ≥ 100 g/m² could coat the epifauna along rocky coasts and impact the reproductive capacity and survival. Intertidal mudflats are susceptible to potential impacts from hydrocarbons, as they are typically low energy environments and therefore trap oils. Intertidal mudflats have been identified in the EMBA along the Ningaloo coast, Pilbara coastline and as far north as Indonesia. The extent of oiling is influenced by the neap and spring tidal cycle, and seasonal highs and lows affecting mean sea level. Potential impacts to tidal flats include heavy accumulations covering the flat at low tide; however, it is unlikely that oil will penetrate the water-saturated sediments. However, oil can penetrate fine sediments through animal burrows and root pores. It has been demonstrated that infaunal burrows allow hydrocarbons to enter subsurface sediments, where it can be retained for months.

The toxicity of stranded surface hydrocarbons and the in-water toxicity of the entrained or dissolved hydrocarbons reaching the shorelines will determine impacts to marine biota such as sessile barnacle species and/or mobile gastropods and crustaceans such as amphipods. Lethal and sub-lethal impacts may be expected where the entrained or dissolved hydrocarbon concentration threshold is >100 or >50 ppb, respectively. Impacts may result in localised changes to the community structure of these shoreline habitats, which would be expected to recover in the medium term (two to five years).

Indonesian waters – all settings**Coral reef**

The fringing coral reefs of the islands of the Lesser Sunda and Southern Java ecoregions may be impacted by surface and accumulated hydrocarbons at or above threshold levels in the event of loss of well containment. The potential impacts on shallow water coral reef systems are discussed above for Mainlands and islands (nearshore waters) – coral reef. There is the potential for lethal impacts due to the physical hydrocarbon coating of coral reef systems, with likely mortality of corals (adults, juveniles and established recruits) at areas contacted by surface hydrocarbons above threshold concentrations.

Seagrass beds/macroalgae and mangroves

Seagrass meadows, macroalgae and mangroves in the intertidal and subtidal habitats of the islands of the Lesser Sunda and Southern Java ecoregions all have the potential to be contacted by surface hydrocarbons exceeding threshold levels, in the unlikely event of a loss of well containment. The potential impacts on these habitats and communities are discussed above for Mainland and islands (nearshore waters).

Open water – productivity/upwelling

Floating hydrocarbons are the only fraction identified by stochastic modelling as potentially reaching Indonesian waters above impact thresholds. Given the distance between the release location and sensitivities in Indonesia, any hydrocarbons reaching Indonesian waters will be highly weathered. The majority of soluble and volatile components of the hydrocarbon will have been lost prior to reaching Indonesian waters.

The Lesser Sunda and Southern Java ecoregions of Indonesia experience seasonal upwellings that support megafauna such as migratory cetacean species. The potential impacts to cetaceans from surface hydrocarbons are discussed above in Offshore – cetaceans and Mainland and islands (nearshore waters) – cetaceans.

Mantra rays and whale sharks attracted to seasonal upwellings may experience indirect impacts if the spill was to coincide with a seasonal event such as plankton aggregations. However, surface slicks that have not entered the water column by entrainment or dissolution are unlikely to have a significant impact on plankton populations, as only a small proportion of the population will be close to the surface. The main pathways for direct exposure and contamination of plankton are digestion and transport of hydrocarbon particles through the gut (Gajbhiye et al., 1995), and exposure to OIW emulsions which adhere to the external body wall or gills. Both these pathways are unlikely to result from surface hydrocarbons. Therefore, significant impacts on open water productivity and upwelling in Indonesian waters are considered unlikely.

Spawning/nursery areas

As discussed for Indonesia – pelagic fish, there is the potential for intertidal nursery areas such as mangroves and seagrass meadows to be contacted by surface hydrocarbons at or above threshold concentrations, potentially leading to impacts such as smothering of mangroves and seagrasses. Impacts to mangroves and seagrasses may result in indirect impacts to early life stages of marine fauna species (such as fish species targeted by local fishers) using these habitats. Given the nature of the hydrocarbon (highly weathered, soluble and volatile components significantly diminished, etc) and the sporadic nature of shoreline/shallow water contact, impacts are expected to be localised, with no population- or ecosystem-scale impacts expected.

Nearshore filter feeders

Potential impacts to nearshore filter feeders in Indonesian waters are unlikely, given the lack of entrained or dissolved hydrocarbons, and the limited potential for surface slicks to entrain into the water column.

Sandy shores/estuaries/tributaries/creeks (including mudflats)/rocky shores

The islands of the Lesser Sunda and Southern Java ecoregions have the potential to be contacted by surface hydrocarbons and accumulated hydrocarbons above threshold levels. The potential impacts to shoreline habitats are discussed above for Mainland and islands (nearshore waters) – sandy shores/estuaries/tributaries/creeks (including mudflats)/rock shores.

Prolonged stranding of surface hydrocarbons, particularly for low energy environments such as mudflats, may lead to localised changes to the community structure of these shoreline habitats (ITOPF, 2011a) which would be expected to recover in the medium term (two to five years).

Summary of potential impacts to socio-economic values

Setting	Receptor group
All settings	Cultural heritage A number of historic shipwrecks have been identified in the vicinity of North West Cape. The spill results do not predict surface slicks contacting the identified wrecks. However, shipwrecks occurring in the subtidal zone will be exposed to entrained/dissolved hydrocarbons, and marine life that shelter and take refuge in and around these wrecks may be affected by in-water toxicity of dispersed hydrocarbons. The consequences of such hydrocarbon exposure may include large fish species moving away, and/or resident fish species and sessile benthos such as hard corals exhibiting sub-lethal and lethal impacts (which may range from physiological issues to mortality). The foreshore and hinterland of North West Cape and along the coastline to Shark Bay contain numerous Aboriginal sites such as burial grounds, middens and fish traps. Only sites that are located below the high-water mark are expected to be impacted from a spill. This could result in hydrocarbon contamination of the site, which may affect the cultural significance and traditional practices associated with the sites. Within the wider EMBA are a number of designated heritage places (Section 4.8). These places are also covered by other designations such as World Heritage Area, Marine Park and Listed Shipwreck. Potential impacts have therefore been discussed in the sections above.
Offshore waters	Fisheries – commercial The spill scenario that was modelled may cause significant direct impacts on the target species of Commonwealth and offshore State fisheries within the defined EMBA. Further details are provided within the ecological impact to fish above. Southern Bluefin Tuna, Western Skipjack Tuna, Small Pelagic, Southern and Eastern Scalefish and Shark fisheries The tuna and small pelagic fisheries target pelagic fish species. Adult fish are highly mobile and able to move away from the spill affected area or avoid the surface waters; however, hydrocarbon concentrations in the upper water column could lead to potential exposure through direct absorption of hydrocarbons, and indirectly by the consumption of contaminated prey (Merkel et al., 2012). Given these pelagic species are distributed over a wide geographical area, the impacts at the population or species level are considered minor in the unlikely event of a spill. A major loss of hydrocarbon from the Petroleum Activity may lead to an exclusion of fishing from the spill affected area for an extended period. North West Slope, Western Deepwater Trawl, and Western Tuna and Billfish fisheries The predicted EMBA resulting from an uncontrolled loss of hydrocarbon from a loss of well containment may result in direct impacts on the species fished by the North West Slope Trawl Fishery and Western Deep Trawl Fishery. These fisheries target benthic species (demersal finfish and crustaceans) in water greater than 200 m deep. The Northwest Slope Trawl Fishery targets scampi and deep-water prawns. These species are less mobile and will therefore not be able to easily move away from the location of a well blowout. Mortality/sub-lethal effects may impact

populations located close to the well blowout location. Mortality and sub-lethal effects may impact localised populations of targeted species close to the well blow out and within the EMBA for entrained/dissolved hydrocarbons (≥ 100 and ≥ 50 ppb, respectively). However, the entrained hydrocarbon is likely to be confined in the upper water column, therefore the demersal species are less likely to be exposed to hydrocarbons than pelagic species. This is particularly relevant, as the majority of the fishing effort for both these fisheries is located distant from the location of a potential well blowout. Exploited fish resources in these areas are less likely to be impacted significantly, as hydrocarbons at this distance are likely to be confined in the upper water column.

The Western Tuna and Billfish Fishery may also be impacted by the predicted EMBA. This fishery targets highly mobile, pelagic fish populations, which are able to move away from the spill affected area. However, as stated above, hydrocarbon concentrations in the upper water column could lead to potential direct and indirect exposure impacts. As these pelagic species are distributed over a wide geographical area, the impacts at the population or species level are considered minor in the unlikely event of a spill.

A major loss of hydrocarbons from the Petroleum Activity may lead to an exclusion of fishing from the spill affected area for an extended period.

State fisheries

Hydrocarbons from a major spill may impact on the area fished by multiple State fisheries within the EMBA. These fisheries generally use a range of gear types (trawl, trap and line), and operate from shallow inshore water to water depths up to 200 m, targeting demersal and pelagic finfish species and prawns. In the unlikely event of a major hydrocarbon spill, there is the potential for the targeted fish species to be exposed to entrained and/or dissolved aromatic hydrocarbons in the water column. However, the potential for direct impact would be reduced, as target species such as mackerel and snapper are likely to avoid the surface water layer underneath oil slicks. Demersal species (such as finfish and crustaceans) have limited mobility, and therefore will not be able to easily move away from a spill. Mortality/sub-lethal effects may impact populations located close to the well blowout location. The demersal and crustacean (prawn) fisheries are located over 20 km from the location of a potential well blowout. Populations in these areas are less likely to be impacted significantly, as hydrocarbons at this distance are likely to be entrained/dissolved or weathered and confined in the upper water column. A major loss of hydrocarbons from the Petroleum Activity may lead to an exclusion of fishing from the spill-affected area for an extended period.

A number of other State and Commonwealth fisheries, further afield in the EMBA, may also be affected by a major spill; however, the impacts to these far field fisheries will be similar to those described below for 'General fisheries' impacts.

Summary

Fish exposure to hydrocarbon can result in 'tainting' of their tissues. Even very low levels of hydrocarbons can impart a taint or 'off' flavour or smell in seafood. Tainting is reversible through the process of depuration which removes hydrocarbons from tissues by metabolic processes, although it is dependent upon the magnitude of the hydrocarbon contamination. Fish have a high capacity to metabolise these hydrocarbons, while crustaceans (such as prawns) have a reduced ability (Yender et al., 2002). Seafood safety is a major concern associated with spill incidents. Therefore, actual or potential contamination of seafood can affect commercial and recreational fishing and can impact seafood markets long after any actual risk to seafood from a spill has subsided (Yender et al., 2002). A major spill would result in the establishment of an exclusion zone around the spill affected area. There would be a temporary prohibition on fishing activities for a period of time, and subsequent potential for economic impacts to affected commercial fishing operators.

Tourism and recreation

Recreational fishers predominantly target tropical species, such as emperor, snapper, grouper, mackerel, trevally and other game fish. Recreational angling activities include shore-based fishing, private boat and charter boat fishing, with the peak in activity between April and October (Smallwood et al., 2011) for the Exmouth region. Limited recreational fishing takes place in the offshore waters of the Operational Area. Impacts on species that are recreationally fished are described above under 'Summary of potential impacts to other species'.

A major loss of hydrocarbons from the Petroleum Activity may lead to exclusion of marine nature-based tourist activities, resulting in a loss of revenue for operators. Tourism is a major industry for the region, and visitor numbers would likely reduce if a hydrocarbon spill were to occur based on the perception of hydrocarbon spills and associated impacts resulting in moderate, medium term (five to 10 years) impacts to community and highly valued areas.

Offshore oil and gas infrastructure

In the unlikely event of a major spill, surface hydrocarbons may affect production from existing petroleum facilities (platforms and FPSOs), as well as activities such as drilling and seismic

	exploration. For example, facility water intakes for cooling and fire hydrants could be shut off, which could in turn lead to the temporary cessation of production activities. Spill exclusion zones established to manage the spill could also prohibit activity support vessel access as well as offtake tankers approaching facilities off the North West Cape. The impact on ongoing operations of regional production facilities would be determined by the nature and scale of the spill and metocean conditions. Furthermore, decisions on the operation of production facilities in the event of a spill would be based primarily on health and safety considerations. The closest production is the Nganhurra FPSO (operated by Woodside). Other nearby facilities include the Santos-operated Ningaloo Vision FPSO. Operation of these facilities is likely to be affected in the event of a well blowout spill.
Nearshore island and mainland coastal areas (nearshore waters)	Fisheries – commercial In the unlikely event of a loss of well containment, there is the possibility that target species in some areas utilised by a number of state fisheries could be affected, including pearl aquaculture in the North West Cape (including Exmouth Gulf) and wild oysters in the Pearl Oyster Managed Fishery that are within the nearfield EMBA, and further afield the Western Rock Lobster Fishery and a number of west coast and south coast fisheries (refer to for fisheries within the wider EMBA). Targeted fish, prawn, mollusc and lobster species and pearl oysters could experience sub-lethal stress, or in some instances mortality, depending on the concentration and duration of hydrocarbon exposure and its inherent toxicity. In addition, there is also the potential for commercial and artisanal Indonesian fisheries and aquaculture (e.g. seaweed farming) to be impacted (see above for potential impacts to seagrasses). Prawn managed fisheries In the event of a major spill, the modelling indicated the surface, entrained and dissolved EMBA may extend to nearshore waters closest to the mainland Pilbara and Gascoyne coasts, including the actively fished areas of the designated Onslow Prawn Managed Fishery, Exmouth Gulf Prawn Managed Fishery, Broome Prawn Managed Fishery, Kimberley Prawn Managed Fishery, Nikol Bay Prawn Limited Entry Fishery and the Shark Bay Prawn and Scallop Managed Fishery, and managed prawn nursery areas. Note that the majority of the demarcated area for the prawn managed fishery in the Exmouth Gulf (proper) is outside the EMBA. Prawn habitat utilisation differs between species in the post-larval, juvenile and adult stages (Dall et al. 1990) and direct impacts to benthic habitat due to a major spill have the potential to impact prawn stocks. For example, juvenile banana prawns are found almost exclusively in mangrove-lined creeks (Rönnbäck et al., 2002), whereas juvenile tiger prawns are most abundant in areas of seagrass (Masel & Smallwood, 2000). Adult prawns also inhabit coastline areas, but tend to move to deeper waters to spawn. In the event of a major spill, a range of subtidal habitats that support juvenile prawns may be exposed to hydrocarbons above impact thresholds, including: • Muiron Islands • Montebello Islands • Barrow Island • Lowendal Islands • Pilbara Northern and Southern Island Groups • Shark Bay • Ningaloo Coast. Localised loss of juvenile prawns in worst spill affected areas is possible. Whether lethal or sub-lethal effects occur will depend on duration of exposure, hydrocarbon concentration and weathering stage of the hydrocarbon, and its inherent toxicity. Furthermore, seafood consumption safety concerns and a temporary prohibition on fishing activities may lead to subsequent potential for economic impacts to affected commercial fishing operators. Fisheries – traditional The wider EMBA intersects the formally recognised MoU Box covering Scott Reef and surrounds, Montebello Island and Ashmore Reef. Indonesian traditional fishers target trochus, sea cucumbers (holothurians), abalone, green snail, sponges, giant clams and finfish, including sharks. Impacts would be similar to those identified for commercial fishing, in the form of a potential exclusion zone and contamination/tainting of fish stocks. This may result in discarding of catch, or reduced fishing effort due to fishery closure.

	Tourism and recreation In the unlikely event of a major spill, the nearshore waters of the Ningaloo coast and shorelines further south and north (including Indonesia) could be reached by surface slicks, entrained hydrocarbons and dissolved hydrocarbons, depending on prevailing wind and current conditions. As these locations offer a number of amenities such as fishing, swimming and using beaches and surrounds, they have a recreational value for local residents and visitors (regional, national and international). If a well blowout event resulted in hydrocarbon contact, there could be restricted access to beaches for a period of days to weeks, until natural weathering, tides, currents or oil spill response (e.g. shoreline clean-up if safe to do so) removes the hydrocarbons. In the event of a well blowout, tourists and recreational users may also avoid areas due to perceived impacts, including after the oil spill has dispersed. Typically, a hydrocarbon spill that results in visible slicks in coastal waters and on shorelines will disrupt recreational activities, particularly tourism and its supporting services. In the unlikely event of a well blowout, hydrocarbons may accumulate on shorelines (at or above a set threshold), and there is potential for visible surface slicks ($<10 \text{ g/m}^2$) (i.e. a rainbow sheen) to reach sensitive receptor locations, for example, key tourist areas of the Ningaloo Coast (see Section 4.8) or the full list of receptors). As a result of surface slicks in nearshore waters and potential accumulation on beaches, it is expected that there will be a temporary cessation of all marine-based tourism activities on the spill-affected coast and wider coastal area for a period of weeks or longer, until natural weathering or tides and currents remove the hydrocarbons or clean-up operations remove beached oil. A temporary prohibition on charter boat recreational fishing trips and any other marine nature-based tourism trips to locations such as the Ningaloo Reef, Exmouth Reef Rowley Shoals, Montebello Islands may be put into effect, depending on the trajectory of the plume, resulting in a loss of revenue for operators. There is the potential for stakeholder perception that this environment will be contaminated over a large area and for the longer term, resulting in a prolonged period of tourism decline. Oxford Economics (2010) assessed the duration of hydrocarbon spill related tourism impacts and found that, on average, it took 12 to 28 months to return to baseline visitor spending. There is likely to be significant impacts to the tourism industry, wider service industry (hotels, restaurants and their supply chain) and local communities in terms of economic loss as a result of spill impacts to tourism. Recovery and return of tourism to pre-spill levels will depend on the size of the spill, effectiveness of the spill clean-up, and change in any public misconceptions regarding the spill (Oxford Economics, 2010).
Indonesian waters	Fisheries – commercial Within the Lesser Sunda and Southern Java ecoregions, aquaculture, encompassing a variety of species and methods, contributes significantly to local employment and food production. The main species farmed are seaweed, prawns and fish. If surface hydrocarbons at or above threshold levels contact aquaculture operations, impacts are likely to include shutdown of production, contamination/tainting of product, and, in the case of seagrass potentially exposed at low tides, smothering and dieback. Indirect impacts are likely to include loss of income and economic impacts to coastal communities.
	Fisheries – traditional The Lesser Sunda and Southern Java ecoregions of Indonesia are a productive area for Indonesian artisanal fisheries. The potential impacts to these fisheries from surface hydrocarbons at or above threshold levels would be similar to those described above for Offshore and Mainland and Islands traditional and commercial fisheries and would be likely to include exclusion zones and the potential tainting/contamination of catch. Indirect impacts may include impacts to local economies of coastal communities.
	Tourism and recreation Tourism is a major industry within the Lesser Sunda and Southern Java ecoregions, with the islands of Bali, Flores, Lombok, Komodo and the Gili Islands particularly important popular tourist destinations, with beach and coastal activities primary attractions. Contact with surface or accumulated hydrocarbons above threshold levels with these areas is likely to result in similar impacts to those described above for Mainland and Islands (nearshore waters) – Tourism and Recreation and would include restricted access to beaches for a period of days to weeks or longer, and the potential for tourist perception that this environment will be contaminated over a large area and for the longer term. This could result in a potential prolonged period of tourism decline. Indirect impacts are likely to include loss of income and economic disruption to a portion of the Lesser Sunda and Southern Java ecoregions. There is also the potential for the following Indonesian Marine National Parks and National Parks to be contacted by surface and accumulated hydrocarbons at or above threshold levels:

	• Laut Sawu Marine National Park • Tanjung Tampa Nature Recreation Park. Impact on the protected areas is discussed in the sections above for ecological values and sensitivities. Additionally, such hydrocarbon contact may alter stakeholder understanding and/or perception of the protected marine environment, given these represent areas largely unaffected by anthropogenic influences and contain biologically diverse environments.
--	--

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ⁵⁹	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
Pyrenees wells are managed in accordance with the WOMP in accordance with the OPGGS (Resource Management and Administration) Regulations 2011, which includes the Pyrenees Well Integrity Management System to prevent loss of containment from the wells.	F: Yes. CS: Minimal cost. Standard practice.	The WOMP demonstrates that the risks to well integrity are managed in accordance with sound engineering principles, standards, specifications, and good oilfield practice. It describes the systems that are in place to ensure well design and integrity is managed for the well lifecycle, thus contributing to management of associated potential environmental consequences of well integrity events.	Control based on legislative requirement – must be adopted.	Yes C 10.1
In the event of a spill emergency response activities implemented in accordance with the Pyrenees Facility Oil Pollution First Strike Plan	F: Yes. CS: Minimal cost. Standard practice.	Rapid response in line with pre-prepared response plan will reduce the scale of potential impacts.	Control based on legislative requirement – must be adopted.	Yes C 10.5
Notify AHO of location of permanent new Pyrenees infrastructure to enable update of maritime charts, thereby reducing the likelihood of unplanned interactions with Pyrenees infrastructure.	F: Yes. CS: Minimal cost. Standard practice.	Notification of AHO will enable them to update maritime charts, thereby reducing the likelihood of unplanned interactions with Pyrenees infrastructure.	Control based on legislative requirement – must be adopted.	Yes C 1.3
Good practice				
Activities permitted around wellheads and subsea infrastructure will be controlled by the facility permit to work system.	F: Yes. CS: Minimal cost. Standard practice.	Facility awareness and proper planning of activities within the vicinity of subsea infrastructure will reduce the likelihood of an incident.	Benefits outweigh cost/sacrifice.	Yes C 10.2
Maintain a safety instrumented system to detect and act on	F: Yes.	The safety instrumented system reduces the	Benefits outweigh cost/sacrifice.	Yes C 10.3

⁵⁹ Qualitative measure.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ⁵⁹	Benefit in impact/risk reduction	Proportionality	Control adopted
deviations that have the potential to cause a loss of hydrocarbon event.	CS: Minimal cost. Standard practice.	potential consequences of an incident.		
Professional judgement – Eliminate				
None identified.				
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
Maintain well mechanical integrity to contain reservoir fluids within the well envelope to avoid loss of well containment.	F: Yes. CS: Minimal cost. Standard practice.	Enhanced well mechanical integrity can significantly reduce the potential consequences of an incident.	Benefits outweigh cost/sacrifice.	Yes C 10.4
ALARP statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the risk of unplanned hydrocarbon release from loss of well containment. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: Acceptability is demonstrated with regard to the considerations below. Principles of ecologically sustainable development Woodside is a proud Australian company that is here for the long term. Woodside has a strong history of exploration and development of oil and gas reserves in the north west of WA, with an excellent environmental record while providing revenue to State and Commonwealth governments, returns to shareholders, jobs and support to local communities. Titles for oil and gas exploration are released based on commitments to explore, with the aim of uncovering and developing resources. It is under the lease agreement that Woodside has determined the potential to develop the hydrocarbon fields for which acceptance of this EP is sought under the Environment Regulations. Woodside has established a number of research projects in order to understand the marine environments in which they operate, notably in the Exmouth region and the Kimberley region, including Rankin Bank, Glomar Shoals, Enfield Canyon and Scott Reef. Where scientific data does not exist, Woodside assumes a pristine natural environment exists and therefore implements all practicable steps to prevent damage. Woodside's corporate values require that we consider the environment and communities in which we operate when making decisions. Woodside looks after the communities and environments in which it operates. Risks are inherent in petroleum activities; however, through sound management and systematic application of policies, standards, procedures and processes, Woodside considers that despite this risk, the extremely low likelihood of loss of well containment is acceptable. Internal context The Petroleum Activity is consistent with Woodside corporate policies, standards, procedures, processes, and training requirements as outlined in the Demonstration of ALARP and EPOs, including: • Woodside Environment and Biodiversity Policy • the EPSs developed and implemented for the Pyrenees Facility • hydrocarbon spill preparedness and response strategies are considered applicable to the nature and scale of the risk, and associated impacts of the response are reduced to ALARP (Appendix H). Woodside corporate values include working sustainably, with respect to the environment and communities in which we operate, listening to internal and external stakeholders, and considering HSE when making decisions. Consultation, outlined below, has been undertaken prior to the Petroleum Activity.

External context – societal values

Woodside recognises that its licence to operate from a regulator and societal perspective is based on historical performance, complying with appropriate policies, standards and procedures, and understanding the expectations of external stakeholders. Consultation, outlined below, has been undertaken prior to the Petroleum Activity:

Woodside has consulted with AMSA and WA DTMI on spill response strategies. A copy of the Oil Pollution First Strike Plan was provided to AMSA and DTMI.

Other relevant persons were consulted (Section 5) and their feedback incorporated into this EP where appropriate.

By providing hydrocarbon spill response measures that are commensurate with the risk rating, location and sensitivity of the receiving environment (including social and aesthetic values), Woodside believes this addresses societal concerns to an acceptable level.

Other requirements (includes laws, policies, standards and conventions)

The Petroleum Activity is consistent with laws, policies, standards and conventions, including:

- accepted Safety Case (as per the requirements of the *Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009*)
- mutual aid MoU for relief well drilling is in place
- accepted WOMP as per the requirements of the *Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulations 2011*
- notification of reportable and recordable incidents to NOPSEMA, if required, in accordance with Section 7.11.

The Petroleum Activity is consistent with the objectives in the Ningaloo management plans (Management Plan for Ningaloo Marine Park and Muiron Islands Marine Management Areas, Ningaloo Marine Park Management Plan) in relation to water quality, coral, shoreline and intertidal, macroalgal, seagrass, mangroves, seabirds and social and economic values.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
EPO 13 No release of hydrocarbons to the marine environment due to well loss of containment.	C 10.1 Pyrenees wells are managed in accordance with the WOMP in accordance with the <i>OPGGS (Resource Management and Administration) Regulations 2011</i> , which includes the Pyrenees Well Integrity Management System to prevent loss of containment from the wells.	PS 10.1 Pyrenees wells are managed in accordance with the WOMP in accordance with the <i>OPGGS (Resource Management and Administration) Regulations 2011</i> , which includes the Pyrenees Well Integrity Management System to prevent loss of containment from the wells.	MC 10.1 Records demonstrate that wells are managed in accordance with the Pyrenees Well Integrity Management System.
	C 1.3 Refer to Section 6.7.1.	PS 1.3 Refer to Section 6.7.1.	MC 1.3 Refer to Section 6.7.1.
	C 10.2 Activities permitted around wellheads and subsea infrastructure will be controlled by the facility permit to work system.	PS 10.2 Activities permitted within the safety zone will be defined and simultaneous operations (SIMOPS) in the safety zone will be controlled by the Safety Zone Entry Checklist (AOML-MA-0002).	MC 10.2 Safety Zone Entry Checklist (AOML-MA-0002) completed, dated and signed for all entries into the 500 m PSZ, other than offtake operations. Offtake operations are to complete Offtake Operations Checklist (STPN-O-0001-0013), date and be approved by the OIM.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
	C 10.3 Maintain safety instrumented system (safety instrumented functions and emergency shutdown actions) to detect and act on deviations that have the potential to cause a loss of hydrocarbon event.	PS 10.3 Integrity will be managed in accordance with Critical Equipment Performance Standard – Safety Shutdown System (PYAIMS-PS-0006-008): Emergency shutdown functions will be implemented to safeguard the process from escalation due to an upset condition beyond safe limits, including isolation of sections of the production process and related equipment, shutdown of related utility systems, de-energising hazardous electrical power, initiation of alarms and minimise loss of hydrocarbon containment.	MC 10.3 Records demonstrate compliance with Critical Equipment Performance Standard – Safety Shutdown System (PYAIMS-PS-0006-008).
	C 10.4 Maintain well mechanical integrity to contain reservoir fluids within the well envelope to avoid a loss of well control.	PS 10.4 Integrity will be managed by the Pyrenees Well Integrity Management System to prevent loss of containment from the wells.	MC 10.4 Records demonstrate compliance with the Pyrenees Well Integrity Management System.
	C 10.5 In the event of a spill emergency response activities implemented in accordance with the Pyrenees Facility Oil Pollution First Strike Plan.	PS 10.5 In the event of a spill the Pyrenees Facility Oil Pollution First Strike Plan requirements are implemented.	MC 10.5 Records of completed incident documentation.
	C 10.6 Arrangements supporting the activities in the Pyrenees Facility Oil Pollution First Strike Plan will be tested to ensure the First Strike Plan can be implemented as planned.	PS 10.6.1 Exercises/tests will be conducted in alignment with the frequency identified in Table 7-9.	MC 10.6.1 Testing of arrangement records confirm that emergency response capability has been maintained.
		PS 10.6.2 Testing of arrangement records confirm that emergency response capability has been maintained.	MC 10.6.2 Emergency Management dashboard confirms that minimum level of personnel trained for core Pyrenees Facility Oil Pollution First Strike Plan roles are available.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
	C 10.7 Maintain environmental incident response equipment to implement the Pyrenees Facility Oil Pollution First Strike Plan.	PS 10.7 Pyrenees Facility Oil Pollution First Strike Plan environmental incident response equipment tested as required.	MC 10.7 Records demonstrate that the Pyrenees Facility Oil Pollution First Strike Plan environmental incident response equipment tested as required.
	C 10.8 Incident reports are raised for unplanned releases within event reporting system.	PS 10.8 Incident reports raised for unplanned releases, and Recordable Incidents notified for material unplanned liquid releases to sea, of: 80 L or more of hydrocarbons, or 1,000 L or more of environmentally hazardous chemical* in any 48-hour period. <i>* Chemicals that are not on the CEFAS OCNS Ranked List of Notified Chemicals or CEFAS OCNS listed chemicals which have a CEFAS OCNS substitution warning, a OCNS product warning or are OCNS Hazard Quotient white, blue, orange, purple, A, B or C.</i>	MC 10.8 Records demonstrate incident reports raised for unplanned releases, and applicable Recordable Incident notifications completed.
Detailed oil spill preparedness and response performance outcomes, standards and measurement criteria for the Petroleum Activity are presented in Appendix H.			

** Risk considers both likelihood and consequence as set out in Woodside's risk management process outlined in Section 2.6.3. Material releases are defined in PS 10.8.*

6.8.3 Unplanned hydrocarbon release: loss of containment of bulk storage (crude)

Context														
Cargo storage and offtake system – Section 3.13.8				Physical environment – Section 4.4 Biological environment – Section 4.5				Consultation – Section 5						
Risks evaluation summary														
Source of risk	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Large release of Pyrenees crude oil from bulk storage on Pyrenees Venture FPSO			X	X	X	X	X	B	4 – Serious	Highly Unlikely	9	LCS GP RBA SV	Tolerable	EPO 14
Source of risk														
Several events could result in significant structural damage to the Pyrenees Venture FPSO hull, with potential for hydrocarbon release. This scenario identifies the release of hydrocarbons to the marine environment from a rupture of one of the crude storage tanks on the FPSO, which would require a severe accidental event. An incident that could result in loss of containment of the Pyrenees Facility cargo tanks is a collision by a support or OSV, offtake tanker or errant merchant vessel. The likelihood that such a collision could result in a structural damage to the hull of an extent that a loss of containment from a cargo tank could occur would depend on the speed, angle and location of collision, and the size/weight of the colliding vessel. A review of literature indicates that although collisions with FPSOs have occurred in the past by support vessels and offtake tankers, no collisions have occurred with errant vessels or merchant tankers. Further, although collisions with support vessels and offtake tankers have caused structural damage to both vessels, no loss of containment from the cargo tanks has occurred in the past (refer Metzger et al., 2010; Cavaye & Waibl, 2008). A Marine Transport assessment determined that due to radar controls and communication systems in place on both the FPSO and merchant vessels and the 25 km distance from shipping lanes, the possibility of collision by a powered merchant vessel with the Pyrenees Facility is not considered credible [8]. However, although very low in likelihood, the scenarios of collision of a vessel or offtake tanker are considered credible. Given the controls in place at the facility during offtake, literature indicates that collisions during offtake can successfully be avoided, and if a collision does occur, the impact will be reduced and not cause significant structural damage to either vessel (refer Pyrenees Marine Transport Assessment and Cavaye & Waibl, 2008). Such controls include tandem mooring with the tanker approaching downwind and static tow at the Pyrenees Venture FPSO stern, double hull structure, turret mooring rather than spread mooring, and control of size/weight of vessels offtaking and weather/sea state limits of operation. All these controls are in place at the Pyrenees Facility. Structural damage to the Pyrenees Facility hull from collision by a vessel is considered the most credible scenario of vessel collision resulting in loss of cargo tank containment. A review of literature indicates that a supply or support vessel would need to be travelling at greater than 15 knots and strike at a direct 90 degree angle to breach the hull of a double-skinned FPSO (Cavaye & Waibl, 2008). Support vessel speeds in the Pyrenees Operations Area are strictly controlled to less than 1 knot within the Operations Area, and the competence and operations of contracted vessels is ensured through the marine assurance process. Collision from a support vessel would also be cushioned by the impact protection at the bow of the vessel. On this basis, the loss of containment from the cargo tank as a result of a support vessel collision is considered a worst possible case scenario. However it should be noted that given the controls in place, collision of any vessel with the Pyrenees Venture FPSO, which could result in sufficient structural damage to cause a cargo tank loss of containment, is considered to be the lowest likelihood (although worst possible case scenario) of all unplanned events identified for the facility.														

The cargo tanks located along the sides of Pyrenees Facility have a capacity of 14,569 m³ of crude oil. The rupture of up to two tanks caused by a direct side impact of similar sized tanker with the beam of the impacting vessel being less than the width of the two tanks is considered plausible. A volume of up to 50% of the content of the two full tanks, a total of 14,600 m³, is considered the maximum plausible release in the event that two tanks are simultaneously ruptured based on vessel draft conditions and loss of inventory above the water line due to the hydrostatic head of the inventory. This is consistent with industry guidance which assumes 50% loss of a ruptured tank, the full loss of two tanks has been deemed as not credible.

This is a conservative volume given that loss of inventory would not be instantaneous, and inter-tank transfer would immediately be initiated to adjacent undamaged tanks via inter-tank valves to minimise the potential release volume. Furthermore, Woodside has a contract in place with ABS, which enables them to be available to provide immediate advice on optimal cargo transfer in the highly unlikely case of such an event.

Loss of containment from bulk storage

Modelling has been carried out for a cargo tank release of crude oil to the marine environment of 14,600 m³ to evaluate the potential environmental impacts that may occur. The results are detailed below.

Details of the modelling scenario used for a release of crude oil from a cargo tank rupture caused by a support vessel collision with the Pyrenees Facility are provided in Section 6.8.1. The characteristics of Pyrenees crude was used as the basis for modelling the for the loss of containment of bulk storage scenario; refer to Section 6.8.1 for additional information on modelling methods, hydrocarbon characteristics and environmental impact thresholds.

Table 6-21: Summary of worst-case loss of containment scenario

Scenario	Hydrocarbon	Spill duration (hours)	Model duration (days)	Depth (BMSL)	Latitude	Longitude	Total hydrocarbon release volume (m ³)
Surface release	Pyrenees crude	12	56	Surface	21° 32' 28.1" S	114° 06' 58.6" E	14,600

Consequence assessment

This section discusses the outcomes of spill trajectory modelling undertaken for a hydrocarbon release from the Pyrenees Facility cargo tank rupture scenario. It focusses on the likelihood of oil contact with specific sensitive locations at a particular threshold.

Summary of hydrocarbon spill modelling

To assess the potential fate and environmental impact of a 14,600 m³ crude oil release, modelling was undertaken to indicate the potential extent the oil may travel once released.

The detailed environmental risk assessment of this scenario indicates that the overall risk to sensitive environmental resources is low. This assessment has been aided by the use of spill modelling techniques that have been extensively tested and are based on real oil characteristics and measured local current and weather conditions.

Modelling undertaken for a 14,600 m³ release on the sea surface indicated that potential zones of surface exposure of >10 g/m³ were predicted to extend predominantly towards the northwest during all seasons. However, there would be some contact with the Ningaloo Marine Park and adjacent coastal and reef areas. The highest probability of surface contact at any threshold was 43% for the Gascoyne Marine Park, offshore from the Ningaloo coastline, with a minimum time of seven hours to arrive at this threshold.

Shoreline contact areas for a 14,600 m³ release of crude from the Pyrenees Facility (with no oil spill response intervention for 56 days) are shown to contact a number of receptors. The highest probability of any shoreline contact was 14.5% at Ningaloo State Marine Park, Ningaloo Coast and Exmouth (approximately 27 km away); with other shoreline contact probabilities ranging between <0.5 and 10%. As expected, the time to shoreline contact ranged from around 1.5 days (37 hours) for the shorelines of Ningaloo State Marine Park, Ningaloo Coast World Heritage Area and Exmouth, and between approximately two to five days for Cape Range, and the northern island groups; Muiron Island, Barrow Island, Middle Island, Boodie Island, Sunday Island, Peak Island and Flat Island.

AMSA guidance indicates that wave action alone is sufficient to clean shorelines with thickness <100 g/m². Therefore, when considering the probabilities and locations of shoreline thickness ≥100 g/m², there was a relatively low probability (ranging from <0.5 to 8%) of any shoreline contact exceeding this threshold at any location.

The most likely location (8% probability) for oil to come ashore at >100 g/m² was in proximity to Point Coates on North West Cape.

It is noteworthy that the environmental sensitivities of the Exmouth Gulf, including scattered mangroves along some of the small inlets on the western side, and areas of high priority mangroves and intertidal mudflats utilised as seabird and migratory shorebird habitat, are described in the oil spill preparedness and response mitigation assessment. However, the shoreline accumulation results indicated a no greater than 0.5% probability of concentrations >100 g/m² of oil accumulating on these important habitats.

The stochastic hydrocarbon spill modelling for entrained and dissolved hydrocarbons indicated that hydrocarbons are forecast to drift in a predominantly a south-west direction from the release site. The modelling indicated that the entrained hydrocarbons (>100 ppb) and dissolved hydrocarbons (>50 ppb) could occur at a number of receptors. Analysis of the stochastic modelling identified Gascoyne Marine Park to have the highest probability of entrained (48.5%) and dissolved (52.5%) hydrocarbons at or greater than 100 ppb or 50 ppb, respectively.

Summary of potential impacts

The spatial extent and fate (incl. weathering) of the spilled hydrocarbon were considered during the impact assessment for a maximum credible spill scenario from Pyrenees Venture FPSO cargo tank loss of containment. These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by RPS APASA (2024), available information on environmental sensitivities that may credibly be impacted in the event of a worst-case spill and relevant literature and studies considering the effects of hydrocarbon exposure.

The credible worst-case hydrocarbon spill scenario that may arise from cargo tank loss of containment may impact upon a number of environmental receptors with potential impacts of a hydrocarbon spill to these receptors considered in Section 6.8.2. The consequence was considered to be Serious (4).

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ⁶⁰	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
Vessels compliant with Marine Orders for safe vessel operations: - Marine Order 21 (Safety and emergency procedures) 2016 - Marine Order 27 (Safety of navigation and radio equipment) 2016 - Marine Order 30 (Prevention of collisions) 2016.	F: Yes. CS: Minimal cost. Standard practice.	Marine Orders 21, 27 and 30 are required under Australian regulations; implementation is standard practice for commercial vessels as applicable to vessel size, type and class. Compliance with Marine Order 21, 27 and 30 reduces the likelihood of adverse interaction of vessels with other marine users.	Control based on legislative requirement – must be adopted.	Yes C 1.1
Navigational aids (AIS) will alert marine vessels of position of the Pyrenees Venture FPSO to avoid collision, and alert FPSO personnel of impending collision.	F: Yes. CS: Minimal cost. Standard practice.	Additional tools enable more effective reduction of the risk of collisions.	Benefits outweigh cost/sacrifice.	Yes C 11.1
Establish and maintain a 500 m PSZ.	F: Yes. CS: Minimal cost. Standard practice.	The PSZ is a requirement under Australian regulations and reduces the likelihood of interaction of vessels with the Pyrenees Venture FPSO.	Control based on legislative requirement – must be adopted.	Yes C 1.2

⁶⁰ Qualitative measure

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ⁶⁰	Benefit in impact/risk reduction	Proportionality	Control adopted
Crew undertaking vessel bridge-watch will be qualified in accordance with International Convention of STCW95, AMSA Marine Order – Part 3: Seagoing Qualifications or certified training equivalent.	F: Yes. CS: Minimal cost. Standard practice.	Competent crew are able to act effectively to avoid incidents.	Control based on legislative requirement – must be adopted.	Yes C 11.2
Good practice				
Activities permitted within the 500 m PSZ around the Pyrenees Venture FPSO will be controlled by the Facility Safety Zone Check Sheet.	F: Yes. CS: Minimal cost. Standard practice.	Formal process of oversight increases effectiveness of the PSZ.	Benefits outweigh cost/sacrifice.	Yes C 11.3
Maintenance of facility systems in accordance with EPS requirements.	F: Yes. CS: Minimal cost. Standard practice.	Proper maintenance ensures effective equipment and processes operations avoiding unplanned events.	Benefits outweigh cost/sacrifice.	Yes C 11.4
Implement marine assurance standards: - Offshore Vessel Assurance Standard (all vessels except offtake tankers) - Tanker Vetting Standard	F: Yes. CS: Minimal cost. Standard practice.	Formal process of oversight increases effectiveness of marine assurance standards.	Benefits outweigh cost/sacrifice.	Yes C 11.5
Implement management system to maintain Pyrenees Facility Emergency Response Plan (ERP).	F: Yes. CS: Minimal cost. Standard practice.	Effective response to emergencies reduces actual consequence to people, property and the environment.	Benefits outweigh cost/sacrifice.	Yes See Section 7 – Implementation Strategy
Professional judgement – Eliminate				
None identified.				
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
None identified.				
ALARP statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the risk of unplanned hydrocarbon release from loss of containment of bulk stored crude. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of acceptability

Acceptability statement:

Loss of bulk storage containment has been evaluated as having a Serious consequence if it occurred. With controls in place the overall risk of this event is Tolerable. Acceptability is demonstrated with regard to the considerations below:

Principles of ecologically sustainable development

Woodside is a proud Australian company that is here for the long term. Woodside has a strong history of exploration and development of oil and gas reserves in the northwest of WA, with an excellent environmental record while providing revenue to State and Commonwealth governments, returns to shareholders, jobs and support to local communities. Titles for oil and gas exploration are released based on commitments to explore, with the aim of uncovering and developing resources. It is under the lease agreement that Woodside has determined the potential to develop the hydrocarbon fields for which acceptance of this EP is sought under the Environment Regulations.

Woodside has established a number of research projects in order to understand the marine environments in which they operate, notably in the Exmouth Region and the Kimberley Region, including Rankin Bank, Glomar Shoals, Enfield Canyon and Scott Reef. Where scientific data does not exist, Woodside assumes a pristine natural environment exists and therefore implements all practicable steps to prevent damage. Woodside's corporate values require that we consider the environment and communities in which we operate when making decisions.

Woodside looks after the communities and environments in which it operates. Risks are inherent in petroleum activities; however, through sound management and systematic application of policies, standards, procedures and processes, Woodside considers that despite this risk, the extremely low likelihood of loss of well containment is acceptable.

Internal context

The Petroleum Activity is consistent with Woodside corporate policies, standards, procedures, processes, and training requirements as outlined in the Demonstration of ALARP and EPOs, including:

- Woodside Environment and Biodiversity Policy
- the EPSs developed and implemented for the Pyrenees Facility
- hydrocarbon spill preparedness and response strategies are considered applicable to the nature and scale of the risk, and associated impacts of the response are reduced to ALARP (Appendix H).

Woodside corporate values include working sustainably, with respect to the environment and communities in which we operate, listening to internal and external stakeholders, and considering HSE when making decisions.

Consultation, outlined below, has been undertaken prior to the Petroleum Activity.

External context – societal values

Woodside recognises that its licence to operate from a regulator and societal perspective is based on historical performance, complying with appropriate policies, standards and procedures, and understanding the expectations of external stakeholders. Consultation, outlined below, has been undertaken prior to the Petroleum Activity:

Woodside has consulted with AMSA and WA DTMI on spill response strategies. A copy of the Oil Pollution First Strike Plan was provided to AMSA and DTMI.

Other relevant persons were consulted (Section 5) and their feedback incorporated into this EP where appropriate.

By providing hydrocarbon spill response measures that are commensurate with the risk rating, location and sensitivity of the receiving environment (including social and aesthetic values), Woodside believes this addresses societal concerns to an acceptable level.

Other requirements (includes laws, policies, standards and conventions)

The Petroleum Activity is consistent with laws, policies, standards and conventions, including:

- accepted Safety Case (as per the requirements of the *Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009*)
- mutual aid MoU for relief well drilling is in place
- accepted WOMP as per the requirements of the *Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulations 2011*
- notification of reportable and recordable incidents to NOPSEMA, if required, in accordance with Section 7.14.6.

The Petroleum Activity is consistent with the objectives in the Ningaloo management plans (Management Plan for Ningaloo Marine Park and Muiron Islands Marine Management Areas, Ningaloo Marine Park Management Plan) in relation to water quality, coral, shoreline and intertidal, macroalgal, seagrass, mangroves, seabirds and social and economic values.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
EPO 14 No release of hydrocarbons to the marine environment due to loss of containment of bulk storage.	C 1.1 Refer to Section 6.7.1.	PS 1.1 Refer to Section 6.7.1.	MC 1.1 Refer to Section 6.7.1.
	C 11.1 Navigational aids (AIS) to avoid collision, and alert personnel of impending collision.	PS 11.1 AIS is fitted and maintained in accordance with Regulation 19-1 of Chapter V of SOLAS.	MC 11.1 Records demonstrate compliance with standard maritime orders and equipment.
	C 1.2 Refer to Section 6.7.1.	PS 1.2 Refer to Section 6.7.1.	MC 1.2 Refer to Section 6.7.1.
	C 11.2 Crew undertaking vessel bridge-watch will be qualified in accordance with International Convention of STCW95, AMSA Marine Order – Part 3: Seagoing Qualifications or certified training equivalent.	PS 11.2 Crew undertaking vessel bridge-watch will be qualified in accordance with International Convention of STCW95, AMSA Marine Order – Part 3: Seagoing Qualifications or certified training equivalent.	Refer to MC 11.1.
	C 11.3 Activities permitted within the 500 m exclusion zone around the Pyrenees Venture FPSO will be controlled by the Facility Safety Zone Check Sheet.	PS 11.3 Activities permitted within the 500 m exclusion zone around the Pyrenees Venture FPSO will be controlled by the Facility Safety Zone Check Sheet.	MC 11.3 Safety Zone Entry Checklist completed, dated and signed for all entries into the 500 m Petroleum Safety Zone, other than offtake operations. Offtake operations are to complete Offtake Operations Checklist, date and be approved by the OIM.
	C 11.4 Maintenance of facility systems in accordance with EPS requirements.	PS 11.4 Maintenance of facility systems in accordance with EPS requirements.	MC 11.4 Records demonstrate compliance with EPS requirements.
	C 11.5 Implement marine assurance standards: - Offshore Vessel Assurance Standard (all vessels except offtake tankers) - Tanker Vetting Standard	PS 11.5 Implement the Offshore Vessel Assurance Standard and Tanker Vetting Standard for the management of vessel activities.	MC 11.5 Records demonstrate implementation of the Offshore Vessel Assurance Standard and Tanker Vetting Standard.
	C 10.5 Refer to Section 6.8.2.	PS 10.5 Refer to Section 6.8.2.	MC 10.5 Refer to Section 6.8.2.
	C 10.6 Refer to Section 6.8.2.	PS 10.6 Refer to Section 6.8.2.	MC 10.6.1 and 10.6.2 Refer to Section 6.8.2.
	C 10.7 Refer to Section 6.8.2.	PS 10.7 Refer to Section 6.8.2.	MC 10.7 Refer to Section 6.8.2.
	C 10.8 Refer to Section 6.8.2.	PS 10.8 Refer to Section 6.8.2.	MC 10.8 Refer to Section 6.8.2.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
Detailed oil spill preparedness and response performance outcomes, standards and measurement criteria for the Petroleum Activity are presented in Appendix H.			

** Risk considers both likelihood and consequence as set out in Woodside's risk management process outlined in Section 2.6.3. Material releases are defined in PS 10.8.*

6.8.4 Unplanned hydrocarbon release: subsea infrastructure

Context														
Subsea infrastructure layout and description – Section 3.5							Physical environment – Section 4.4 Biological environment – Section 4.5				Consultation – Section 5			
Risks evaluation summary														
Source of risk	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Accidental releases/ leaks of crude oil from subsea infrastructure		x	x		x	x	x	A	2 – Measurable	Unlikely	3	LCS GP	Tolerable	EPO 15
Pyrenees Venture FPSO off station (up to three months), leaks or weeps from wells will be left undetected until return		x	x	x	x	x	x	A	1 – Minor	Unlikely	1	LCS GP RBA SV	Tolerable	
Source of risk														
Consideration has been given to the potential sources of hydrocarbons from subsea infrastructure leak or failure events that could lead to potential environmental impacts. It was identified that the greatest loss of hydrocarbons from subsea infrastructure was from damage to (severing of) a production jumper or production flow line. The release rate for a severed production line would depend on the network lineup and number of wells flowing into the damaged section of the subsea network, and the response time to perform a production shut down and isolation. Individual well productivity and water cut would also influence the potential release volumes. It is noted that the average producing water cut of Pyrenees is around 92% (Q3 2023) and forecasted to increase further through to end of field life. Pyrenees wells require gas lift to flow and have been shown to be unable to self-lift (without the aid of gas lift) at water cut in excess of around 60 % to a back pressure equivalent to seabed (mudline) pressure. The current daily rate of the most productive wells in the Pyrenees field is approximately 2,500 m³/day total liquid (which is approximately 250 m³/day of oil) when producing to the production facility For a severing of a production line and release to the marine environment, the following has been assumed: • An initiating event within the field was caused by an event such as an anchor drag or dropped heavy object overboard. • The event does not disrupt gas lift to the online wells, remaining intact. • The Xmas tree remains intact with hydraulic controls normal and operative. • Those wells requiring gas lift continue to produce. • Wells within the impacted network section are able to flow to the sea bed (mudline) with approximately 20 bar back pressure in 200 m water depth. This assumption adopts a worst case simplification to neglect any pressure drop effects of the remaining subsea network. • A worst case operational response is proposed to be two hours before action taken to shut wells and gas lift in. • A worst case network lineup is assumed whereby up to four wells are online to either the Crosby, Ravensworth or Stickle networks, as well as a commingled manifold lineup allowing all four wells to crossflow through the impacted subsea network. Based on the SIMOPS monitoring procedures in place within the Pyrenees Operations Area, procedures and mitigation controls for heavy lifting activities, maintenance and design of subsea infrastructure and the emergency														

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

response procedures that would be activated following an incident, it has been estimated that a credible time to become aware of a rupture to a production line, and then cascade shut down procedures and stop flow is two hours at a worst case. The reality is that the entire field would be closed down prior to the anticipated arrival of a dragging rig. Similarly, wells within the range of a dropped object with significant mass would be shut in immediately following reports to the OIM. However these realistic responses have been omitted for the purposes of creating this scenario.

A worst case estimate has been calculated using a proxy model for the most productive well in each of the Crosby, Stickle and Ravensworth networks flowing to mudline back pressure with 4 MMSCFD gas lift per well for four wells at 90% watercut. The total spill volumes over a 2 hr flow period from a severed production jumper would be:

- Crosby – 90 m³ oil (790 m³ formation water)
- Stickle – 110 m³ oil (1,110 m³ formation water)
- Ravensworth – 100 m³ oil (1,000 m³ formation water).

(Note, Moondyne considered to be significantly lower volume, as there are only 2 wells in this network).

Therefore, the worst case scenario for a production flowline failure is severing the Stickle production flowline (or production jumper), with an estimated worst case release of 110 m³ oil over two hours before the emergency response procedure would shut down production flow.

There is also an unlikely credible scenario for hydrocarbons to enter the marine environment when the FPSO is off station. This could be caused by slow leaks or weeps from the wells that are unable to be detected while the FPSO is disconnected. The Petroleum Activity includes scenarios for the FPSO to leave station for short periods of time associated with events such as cyclonic weather and for extended periods of time associated with dry docking.

Consequence assessment

The spatial extent and fate (incl. weathering) of the spilled hydrocarbon from accidental leaks from subsea infrastructure and from undetected leaks or weeps during FPSO sail away, were considered during the impact assessment for a maximum credible spill scenario from subsea flowline and riser loss of containment. These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by RPS APASA, available information on environmental sensitivities that may credibly be impacted in the event of a worst-case spill and relevant literature and studies considering the effects of hydrocarbon exposure.

The credible worst-case hydrocarbon spill scenario that may arise from subsea flowline and riser loss of containment may impact upon a number of environmental receptors with potential impacts of a hydrocarbon spill, the impacts of hydrocarbons on those receptors have been fully assessed in Section 6.8.2. The consequence associated with the volumes from accidental leaks, weeps or spills from subsea wells and infrastructure was considered Measurable (2).

Demonstration of ALARP

<i>Control considered</i>	<i>Control feasibility (F) and cost/sacrifice (CS)⁶¹</i>	<i>Benefit in impact/risk reduction</i>	<i>Proportionality</i>	<i>Control adopted</i>
Legislation, codes and standards				
Establish and maintain a 500 m PSZ.	F: Yes. CS: Minimal cost. Standard practice.	The PSZ is a requirement under Australian regulations and reduces the likelihood of interaction of vessels with the Pyrenees Venture FPSO.	Control based on legislative requirement – must be adopted.	Yes C 1.2
In the event of a spill emergency response activities implemented in accordance with the Pyrenees Facility Oil Pollution First Strike Plan.	F: Yes. CS: Minimal cost. Standard practice.	Rapid response in line with pre-prepared response plan will reduce the scale of potential impacts.	Control based on legislative requirement – must be adopted.	Yes C 10.5

⁶¹ Qualitative measure.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)⁶¹	Benefit in impact/risk reduction	Proportionality	Control adopted
Notify AHO of location of permanent new Pyrenees infrastructure to enable update of maritime charts, thereby reducing the likelihood of unplanned interactions with Pyrenees infrastructure.	F: Yes. CS: Minimal cost. Standard practice.	Notification of AHO will enable them to update maritime charts, thereby reducing the likelihood of unplanned interactions with Pyrenees infrastructure.	Control based on legislative requirement – must be adopted.	Yes C 1.3
Good practice				
Activities permitted within the 500 m exclusion zone around the Pyrenees Venture FPSO will be controlled by the Facility Safety Zone Check Sheet.	F: Yes. CS: Minimal cost. Standard practice.	Implementation of control measures surrounding presence of vessels within the 500 m exclusion zone reduces the risk of unforeseen incidents.	Benefits outweigh cost/sacrifice.	Yes C 12.3
All subsurface safety valves will be tested in accordance with system requirements.	F: Yes. CS: Minimal cost. Standard practice.	Regular and appropriate testing reduce the risk of failure.	Benefits outweigh cost/sacrifice.	Yes C 12.1
All subsea infrastructure (including suspended) will be monitored in accordance with the Pyrenees Subsea Integrity Management Plan to prevent loss of containment from the infrastructure.	F: Yes. CS: Minimal cost. Standard practice.	Regular and appropriate testing reduce the risk of failure.	Benefits outweigh cost/sacrifice.	Yes C 12.2
Maintenance of facility systems in accordance with EPS requirements.	F: Yes. CS: Minimal cost. Standard practice.	Regular and appropriate testing reduce the risk of failure.	Benefits outweigh cost/sacrifice.	Yes C 12.4
Professional judgement – Eliminate				
None identified.				
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
None identified.				
ALARP statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the risk of unplanned hydrocarbon release from subsea infrastructure. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of acceptability

Acceptability statement:

The proposed management controls for preventing and minimising the risk of release of hydrocarbons from subsea infrastructure are comprehensive and consistent with all relevant codes and standards and good oilfield practice. No reasonably practicable additional controls have been identified that would provide a significant net environmental benefit.

The magnitude of the spill is unlikely to be greater than an estimated worst case release of 110 m³ oil over two hours. The offshore oceanic location is such that any spills would be rapidly diluted and dispersed, with any environmental effects being temporary and localised, with significant impacts not expected owing to the short exposure timeframe.

In summary, all relevant controls were considered as part of the ALARP assessment, and as no other reasonable additional controls were identified that would further reduce the impacts and risks of an unplanned spill from subsea infrastructure without a gross disproportionate sacrifice, the impacts and risks are considered ALARP. Woodside undertakes regular consultation with relevant persons about its operations/ activities providing them with sufficient and reasonable opportunities to raise any new concerns or issues for the duration of this Petroleum Activity.

Woodside is satisfied that when the accepted controls are implemented that the impact and residual risk of an unplanned spill from subsea infrastructure to the environment is considered ALARP and that adherence to the performance standards will manage the impacts and risks to an acceptable level.

EPOs, EPSs and MC

<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
EPO 15 No release of hydrocarbons to the marine environment from loss of containment from subsea infrastructure.	C 1.2 Refer to Section 6.7.1.	PS 1.2 Refer to Section 6.7.1.	MC 1.2 Refer to Section 6.7.1.
	C 1.3 Refer to Section 6.7.1.	PS 1.3 Refer to Section 6.7.1.	MC 1.3 Refer to Section 6.7.1.
	C 10.3 Refer to Section 6.8.2.	PS 10.3 Refer to Section 6.8.2.	MC 10.3 Refer to Section 6.8.2.
	C 12.1 All subsurface safety valves will be tested in accordance with system requirements.	PS 12.1 All subsurface safety valves will be tested in accordance with system requirements.	MC 12.1 Planned Maintenance System records.
	C 12.2 All subsea infrastructure (including suspended) will be monitored in accordance with the Pyrenees Subsea Integrity Management to prevent loss of containment from the infrastructure.	PS 12.2 All subsea infrastructure (including suspended) will be monitored in accordance with the Pyrenees Subsea Integrity Management Plan to prevent loss of containment from the infrastructure.	MC 12.2 Records demonstrate implementation of the Pyrenees Subsea Integrity Management Plan.
	C 11.4 Refer to Section 6.8.3.	PS 11.4 Refer to Section 6.8.3.	MC 11.4 Refer to Section 6.8.3.
	C 10.5 Refer to Section 6.8.2.	PS 10.5 Refer to Section 6.8.2.	MC 10.5 Refer to Section 6.8.2.
	C 10.6 Refer to Section 6.8.2.	PS 10.6 Refer to Section 6.8.2.	MC 10.6.1 & 10.6.2 Refer to Section 6.8.2.
	C 10.7 Refer to Section 6.8.2.	PS 10.7 Refer to Section 6.8.2.	MC 10.7 Refer to Section 6.8.2.
	C 10.8 Refer to Section 6.8.2.	PS 10.8 Refer to Section 6.8.2.	MC 10.8 Refer to Section 6.8.2.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
Detailed oil spill preparedness and response performance outcomes, standards and measurement criteria for the Petroleum Activity are presented in Appendix H.			

** Risk considers both likelihood and consequence as set out in Woodside's risk management process outlined in Section 2.6.3. Material releases are defined in PS 10.8.*

6.8.5 Unplanned hydrocarbon release: offtake operations

Context														
Cargo storage and offtake system – Section 3.13.8				Physical environment – Section 4.4 Biological environment – Section 4.5					Consultation – Section 5					
Risks evaluation summary														
Source of risk	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Release of crude from equipment failure or processes (offtake, transferring)			x	x		x	x	B	3 – Substantial	Highly Unlikely	3	LCS PJ	Tolerable	EPO 16
Source of risk														
This spill risk scenario would involve disconnection or bursting of the offtake hose (total volume of hose string – 34.02 m³), a slow leak from valves or flanges during offtake and transfer operations or misalignment of valves or overflows. The maximum credible spill volume would include the hose volume plus pumping rate until shutdown (offtake pumping rate: 4,000 m³ per hour or 67 m³ per minute). AMSA guidelines indicate that 15 minutes at the transfer rate conducted under continuous supervision, or 1,000 m³ in this case.														
Consequence assessment														
The spatial extent and fate (incl. weathering) of the spilled hydrocarbon were considered during the impact assessment for a maximum credible spill scenario from loss of hydrocarbons to the marine environment from a transfer/offtake operation. These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by RPS APASA, available information on environmental sensitivities that may credibly be impacted in the event of a worst-case spill and relevant literature and studies considering the effects of hydrocarbon exposure.														
The credible worst-case hydrocarbon spill scenario that may arise from loss of hydrocarbons to the marine environment from a transfer/offtake operation may impact upon a number of environmental receptors, with potential impacts of a hydrocarbon spill to these receptors considered in Section 6.8.2. The consequence was considered to be Minor (1).														

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ⁶²	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
Vessels will have current MARPOL compliant Shipboard Oil Pollution Emergency Plan (SOPEP) and Shipboard Marine Pollution Emergency Plan (SMPEP – for noxious liquid) – the latter may be combined with a SOPEP.	F: Yes. CS: Minimal cost. Standard practice.	Compliance with MARPOL Annex I, minimises any potential impacts from any unplanned releases.	Control based on legislative requirement – must be adopted.	Yes C 13.1
Incident reports are raised for unplanned releases within event reporting system.	F: Yes. CS: Minimal cost. Standard practice.	Good practice that operators identify, report and learn from unplanned release events. Supports compliance with regulatory reporting requirements.	Control based on Woodside standard and regulatory requirements.	Yes C 10.8
Good practice				
Test emergency response procedures associated with offtake activities as described in the drills matrix.	F: Yes. CS: Minimal cost. Standard practice.	Testing ensures that response procedures are effective.	Benefits outweigh cost/sacrifice.	Yes C 13.2
Implement offtake procedures: - Offtake Operations Manual - Pyrenees Venture Berthing and Terminal Handbook.	F: Yes. CS: Minimal cost. Standard practice.	Offtake and vessel procedures will reduce the likelihood of an incident.	Benefits outweigh cost/sacrifice.	Yes C 13.3
Maintenance of facility systems in accordance with EPS requirements.	F: Yes. CS: Minimal cost. Standard practice.	PS requirements reduce the likelihood of an incident.	Benefits outweigh cost/sacrifice.	Yes C 11.4
Implement marine assurance standards: - Offshore Vessel Assurance Standard (all vessels except offtake tankers) - Tanker Vetting Standard	F: Yes. CS: Minimal cost. Standard practice.	Formal process of oversight increases effectiveness of marine assurance standards.	Benefits outweigh cost/sacrifice.	Yes C 11.5
Professional judgement – Eliminate				
None identified.				
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
None identified.				

⁶² Qualitative measure.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ⁶²	Benefit in impact/risk reduction	Proportionality	Control adopted
ALARP statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the risk of unplanned hydrocarbon release from loss of well containment. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The proposed management controls for preventing and minimising the risk of release of hydrocarbons during offtake operations are comprehensive and consistent with all relevant codes and standards and good oilfield practice. No reasonably practicable additional controls have been identified that would provide a significant net environmental benefit. All relevant controls were considered as part of the ALARP assessment, and as no other reasonable additional controls were identified that would further reduce the impacts and risks of unplanned releases of hydrocarbons from offtake operations without a gross disproportionate sacrifice, the impacts and risks are considered ALARP. Woodside undertakes petroleum activities in a manner that is consistent with Our Values and hence the principles of ESD. Relevant persons have been consulted about the operation and appropriate control measures will be implemented to address any concerns that were raised. Woodside undertakes regular consultation with relevant persons about its operations/ activities providing them with sufficient and reasonable opportunities to raise any new concerns or issues for the duration of this Petroleum Activity. On this basis, it is considered that adherence to the performance standards will manage the impacts and risks of release of hydrocarbons from offtake operations to an acceptable level. Woodside is satisfied that when the accepted controls are implemented that the impact and residual risk of loss of hydrocarbons from offtake operations is considered ALARP and that adherence to the EPSs will manage the impacts and risks of seabed disturbance to an acceptable level.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental Performance Standards	Measurement Criteria
EPO 16 No release of hydrocarbons to the marine environment during offtake operations.	C 13.1 Vessels will have current MARPOL compliant SOPEP and SMPEP – for noxious liquid – the latter may be combined with a SOPEP.	PS 13.1 MARPOL Annex I, Prevention of Pollution by Oil: - In line with MARPOL Annex I, all vessels involved in the vessel-based activities over 400 gross tonnages will have a current SOPEP in place. - Spill clean-up equipment is available on the vessels. - Scupper plugs or equivalent deck drainage control measures available where hazardous chemicals and hydrocarbons are stored and frequently handled.	MC 13.1.1 MARPOL compliant SOPEP onboard vessels.
			MC 13.1.2 Vessels incident report records hydrocarbon spills managed in accordance to SOPEP.
			MC 13.1.3 Documentation that SOPEP materials and equipment are available on the vessels prior to and during fuel bunkering.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental Performance Standards	Measurement Criteria
	C 13.2 Test emergency response procedures associated with offtake activities as described in the drills matrix.	PS 13.2 Critical controls associated with emergency response procedures will be tested prior to commencement of offtake activities and periodically thereafter against a schedule of drills.	MC 13.2 Records indicate testing of emergency response procedures associated with offtake activities as described in the drills matrix.
	C 13.3 Implement offtake procedures: • Offtake Operations Manual • Pyrenees Venture Berthing and Terminal Handbook.	PS 13.3 All offtake activities will be conducted in accordance with offloading procedures.	MC 13.3.1 Records demonstrate implementation of the Offtake Operation Manual and the Pyrenees Venture Berthing and Terminal Handbook.
	C 11.4 Refer to Section 6.8.3.	PS 11.4 Refer to Section 6.8.3.	MC 11.4 Refer to Section 6.8.3.
	C 11.5 Refer to Section 6.8.3.	PS 11.5 Refer to Section 6.8.3.	MC 11.5 Refer to Section 6.8.3.
	C 10.5 Refer to Section 6.8.2.	PS 10.5 Refer to Section 6.8.2.	MC 10.5 Refer to Section 6.8.2.
	C 10.6 Refer to Section 6.8.2.	PS 10.6 Refer to Section 6.8.2.	MC 10.6.1 and 10.6.2 Refer to Section 6.8.2.
	C 10.7 Refer to Section 6.8.2.	PS 10.7 Refer to Section 6.8.2.	MC 10.7 Refer to Section 6.8.2.
	C 10.8 Refer to Section 6.8.2.	PS 10.8 Refer to Section 6.8.2.	MC 10.8 Refer to Section 6.8.2.
Detailed oil spill preparedness and response performance outcomes, standards and measurement criteria for the Petroleum Activity are presented in Appendix H.			

* Risk considers both likelihood and consequence as set out in Woodside's risk management process outlined in Section 2.6.3. Material releases are defined in PS 10.8.

6.8.6 Unplanned hydrocarbon release: turret operations

Context														
Utility system – Section 3.15				Physical environment – Section 4.4 Biological environment – Section 4.5				Consultation – Section 5						
Risks evaluation summary														
Source of risk	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Hydrocarbon spill from failure during turret operations			x					A	1 – Minor	Unlikely	1	LCS GP	Tolerable	EPO 17
Source of risk														
Turret operations have the potential to result in a small amount of crude oil being spilt to the marine environment. Three credible scenarios for this have been identified and are described below. In all credible scenarios a spill would be expected to be no more than 1 m³. Failure to disconnect from turret The disconnect system includes a primary and backup set of collet ring drive cylinders, either of which can release (unlock) the DTM, which then drops away. These systems are subject to routine maintenance and hence inability to disconnect is considered unlikely. In combination, the robustness of the Pyrenees Venture FPSO/mooring system and the disconnect mechanism results in a negligible risk of a spill. Failure of mooring system A failure of the mooring system could result in a small release of crude oil. The mooring system is designed to remain intact with the loss of a single mooring line, therefore there would be no spill associated with the loss of a single line. Further, a mooring monitoring system has been implemented on the facility. The system monitors the Pyrenees Venture FPSO position relative to the mooring with an audible excursion alarm sounding in the bridge and CCR should the FPSO move outside an allowed maximum radius. Connect/disconnect turret The riser spool is disconnected only when the associated well is shut-in and/or the riser isolation valves are closed, sealing the spool off from upstream inventory. Downstream valves are also closed. Prior to splitting flanges, the spool is drained while still hooked up (a bypass valve is used). When the draining is complete, the flanges are split and a very small amount of hydrocarbon fluid may escape. This hydrocarbon fluid is contained with absorbent matting so the potential for an oil spill (estimated at less than 1 m³) to reach the sea is considered as negligible. Likelihood In accordance with the Woodside PetDW Risk Matrix, given prevention and mitigation measures in place (i.e. design, inspection and maintenance), the likelihood has been determined as Unlikely.														
Consequence assessment														
The spatial extent and fate (incl. weathering) of the spilled hydrocarbon were considered during the impact assessment for a maximum credible spill scenario from loss of hydrocarbons to the marine environment from a transfer/offtake operation. These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by RPS APASA, available information on environmental sensitivities that may credibly be impacted in the event of a worst-case spill and relevant literature and studies considering the effects of hydrocarbon exposure. The credible worst-case hydrocarbon spill scenario that may arise from loss of hydrocarbons to the marine environment from a transfer/offtake operation may impact upon a number of environmental receptors with potential impacts of a hydrocarbon spill to these receptors considered in Section 6.8.2 (loss of well containment). The consequence was considered to be Minor (1).														

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ⁶³	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
None identified.				
Good practice				
Turret connection and disconnection will be conducted in accordance with the Turret Mooring System Connect and Disconnect Procedure (PYPN-MT-0001-0001), including: - The riser isolation valves are closed, sealing the spool off from upstream inventory. - Riser spool is disconnected only when the associated well is shut in.	F: Yes. CS: Minimal cost. Standard practice.	Mooring procedures ensure that turret connection and disconnection are undertaken in a manner to avoid any release of hydrocarbons to the environment, thus eliminating the risk.	Benefits outweigh cost/sacrifice.	Yes C 14.1
Monitoring of the mooring system to aid in confirming that all lines are present/intact.	F: Yes. CS: Minimal cost. Standard practice.	Mooring system position monitoring is provided to aid identifying an issue with a mooring line.	Benefits outweigh cost/sacrifice.	Yes C 14.2
Pyrenees wells will be managed in accordance with the Pyrenees Well Integrity Management System to prevent loss of well control and associated overpressure of turret equipment.	F: Yes. CS: Minimal cost. Standard practice.	The Pyrenees WIMS reduces the likelihood of an incident occurring, thus reducing the risk.	Benefits outweigh cost/sacrifice.	Yes C 14.3
Professional judgement – Eliminate				
None identified.				
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
None identified.				
ALARP statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the risk of unplanned hydrocarbon release during turret operations. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

⁶³ Qualitative measure.

Demonstration of acceptability

Acceptability statement:

The consequence assessment has determined that, given the adopted controls, accidental releases of less than 1 m³ hydrocarbons from turret operations to the marine environment represents a minor risk rating that is unlikely to result in a consequence greater than minor short-term impacts. Further opportunities to reduce the risks have been investigated above. The adopted controls are considered good oil-field practice/industry best practice and meet requirements of Australian Marine Orders. Consultation with relevant persons has not indicated any concerns in relation to accidental spills of hydrocarbons during turret operations.

Woodside acknowledges that uncertainty on cultural values may remain, however, the Program of Ongoing Engagement with Traditional Custodians has been developed to enable Woodside to manage potential uncertainty on the impacts and risks to cultural values which may be identified at the time during Woodside's activities via ongoing dialogue with Traditional Custodians.

The potential risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the risks of accidental spills of hydrocarbons during transfer, storage and use to a level that is broadly acceptable.

EPOs, EPSs and MC

<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
EPO 17 No release of hydrocarbons to the marine environment during turret operations.	C 14.1 Turret connection and disconnection will be conducted in accordance with the Turret Mooring System Connect and Disconnect Procedure (PYPN-MT-0001-0001), including: - The riser isolation valves are closed, sealing the spool off from upstream inventory. - Riser spool is disconnected only when the associated well is shut in.	PS 14.1 Turret connection and disconnection will be conducted in accordance with the Turret Mooring System Connect and Disconnect Procedure (PYPN-MT-0001-0001) to prevent turret loss of containment during connection/disconnection.	MC 14.1 Records indicate that connection/disconnections are conducted in accordance with procedure and there is awareness and competency of procedure.
	C 14.2 Mooring system position monitoring is intended to confirm that all lines are present/intact.	PS 14.2 Mooring system position monitoring is intended to confirm that all lines are present/intact.	MC 14.2 Records show that the mooring position monitoring system has been implemented and is managed.
	C 14.3 Pyrenees wells will be managed in accordance with the Pyrenees Well Integrity Management System to prevent loss of well control and associated overpressure of turret equipment.	PS 14.3 Pyrenees wells will be managed in accordance with the Pyrenees Well Integrity Management System to prevent loss of well control and associated overpressure of turret equipment.	MC 14.3 Records indicate that wells are managed in accordance with the Pyrenees Well Integrity Management System.
	C 10.5 Refer to Section 6.8.2.	PS 10.5 Refer to Section 6.8.2.	MC 10.5 Refer to Section 6.8.2.
	C 10.6 Refer to Section 6.8.2.	PS 10.6 Refer to Section 6.8.2.	MC 10.6.1 and 10.6.2 Refer to Section 6.8.2.
	C 10.7 Refer to Section 6.8.2.	PS 10.7 Refer to Section 6.8.2.	MC 10.7 Refer to Section 6.8.2.
	C 10.8 Refer to Section 6.8.2.	PS 10.8 Refer to Section 6.8.2.	MC 10.8 Refer to Section 6.8.2.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
Detailed oil spill preparedness and response performance outcomes, standards and measurement criteria for the Petroleum Activity are presented in Appendix H.			

** Risk considers both likelihood and consequence as set out in Woodside's risk management process outlined in Section 2.6.3. Material releases are defined in PS 10.8.*

6.8.7 Unplanned hydrocarbon release: diesel spill from bulk storage

Context														
Utility system – Section 3.15				Physical environment – Section 4.4 Biological environment – Section 4.5				Consultation – Section 5						
Risks evaluation summary														
Source of risk	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Diesel spill from ruptured fuel tank due to vessel collision			X					A	2 – Measurable	Highly Unlikely	0.9	LCS GP	Tolerable	EPO 18
Source of risk														
Diesel is stored on board the Pyrenees Venture FPSO and OSV, as a fuel for vessel engines and generators. Rupture of one of the diesel oil fuel tanks on the Pyrenees Venture FPSO would require a severe accidental event, such as collision by errant ship. The potential for an accident of this type to occur was considered in the ENVID but discounted as ‘very rare’ due to the tanks being located centrally inboard towards the stern and is not considered further. Rupture of an OSVs fuel tanks would require direct collision from the side with enough force to rupture a wing tank. Direct stern and direct bow impacts to an OSV are unlikely to rupture a fuel tank because of the location tanks in these areas are protected by overhang of the deck. AMSA have analysed historical data (DNV, 2011) to identify the spill frequency per year for all ship types and accident types. The overall frequency of collision accidents leading to a spill event in Australian waters is 1.6×10^{-5}. The maximum volume likely to be released from a single OSV tank rupture is approximately 120 m³. Previously, a conservative assumption of two wing tanks being ruptured leading to a loss of 250 m³ has been modelled, however, reference to AMSA’s analysis of historical data (DNV, 2011) indicates that this is overly conservative and not representative the credible worst-case. It considered that a credible worst-case is rupture of a single wing tank. The theoretical capacity is 120 m³; however, it is normal practice not to fill more than 90% (i.e. 108 m³) and all OSVs have the capacity to transfer fuel between tanks, which would further reduce the volume released. Hence, modelling has been conducted for a 100 m³ diesel release (APASA, 2012). The estimated probability of a release of this quantity is approximately 2.7×10^{-6} (for comparison the risk of a 200 m³ spill is approximately 1.8×10^{-6}). Hydrocarbon characteristics and quantitative spill risk assessment Diesel fuel is a light petroleum distillate with a predominance of 12 carbon atoms to 14 carbon atoms (C12 to C14) hydrocarbon compounds. Diesel fuels may vary in their properties depending on their origin and particular additives but are generally comprised of moderate concentrations of BTEX and low concentrations of PAHs of low molecular weight such as naphthalene, fluorene and phenanthrene. The specific gravity of diesel ranges from 0.84 to 0.88 g/cm³ (30 to 32° API) and the pour point varies between -17°C and -30°C. Diesel fuels have a low viscosity of approximately 13 cSt (at 20°C) and are categorised, using the ITOF methods, as light persistent oils. Stochastic modelling predicated that the maximum distance that a 100 m³ spill of diesel above the 1 µm threshold was predicted to travel was approximately 15 km west of the surface release site, after which there was no diesel predicted to remain on the water surface above the selected threshold. A conservative EMBA is as follows for the 100 m³ diesel spill: • surface 1 µm – 15 km radius • entrained >960 ppb.hrs – 19.5 km (0 to 5 m); 11.6 km (5 to 10 m). If diesel is spilled to the sea surface, the more volatile BTEX components will evaporate or breakdown rapidly leaving behind the PAH components, which continually evaporate or breakdown more slowly over several days as it thins out														

on the water surface. For the environmental conditions experienced in the Pyrenees Facility area, diesel is expected to undergo rapid spreading and this (together with evaporative loss) will result in a relatively rapid slick break up.

The BTEX components in diesel are the main source of toxicity to marine organisms and hence it is generally observed that the toxicity of spilled diesel decreases as the diesel weathers, decreasing from about 8 to 12 ppm for fresh diesel (Neff et al., 2000). A spill of diesel in the Pyrenees Facility area will have an immediate acute impact on the water column biota in the vicinity of the spill origin. Given the water depth at the Pyrenees location, a surface spill of diesel will not impact directly on the seafloor benthos.

Marine diesel is a mixture of volatile and persistent hydrocarbons with low proportions of highly volatile and residual components. In general, about 6% of the oil mass should evaporate within the first 12 hours (boiling point < 180°C); a further 35% should evaporate within the first 24 hours (180°C < boiling point < 265°C); and a further 54% should evaporate over several days (265°C < boiling point < 380°C). About 5% of the oil is shown to be persistent. The aromatic content of the oil is about 3%.

The mass balance forecast for the constant-wind case for marine diesel shows that about 41% of the oil is predicted to evaporate within 24 hours. Under these calm conditions the majority of the remaining oil on the water surface weathers at a slower rate due to comprising the longer-chain compounds with higher boiling points. Evaporation of the residual compounds slows significantly and is then subject to more gradual decay through biological and photochemical processes.

Under the more realistic variable-wind case, where the winds are of greater strength, entrainment of marine diesel into the water column is indicated to be significant. About 24 hours after the spill, around 72% of the oil mass is forecast to have entrained and a further 24% is forecast to have evaporated, leaving only a small proportion of the oil floating on the water surface (<1%). The residual compounds tend to remain entrained beneath the surface under conditions that generate wind waves (about >6 m/s).

The increased level of entrainment in the variable-wind case results in a higher percentage of biological and photochemical degradation, where the decay of the floating slicks and oil droplets in the water column occurs at an approximate rate of 2.4% per day with an accumulated total of ~16% after seven days, in comparison to a rate of ~0.2% per day and an accumulated total of 1.3% after seven days in the constant-wind case. Given the large proportion of entrained oil and the tendency for it to remain mixed in the water column, the remaining hydrocarbons decay and/or evaporate over time scales of several weeks to a few months. This long weathering duration extends the area of potential effect.

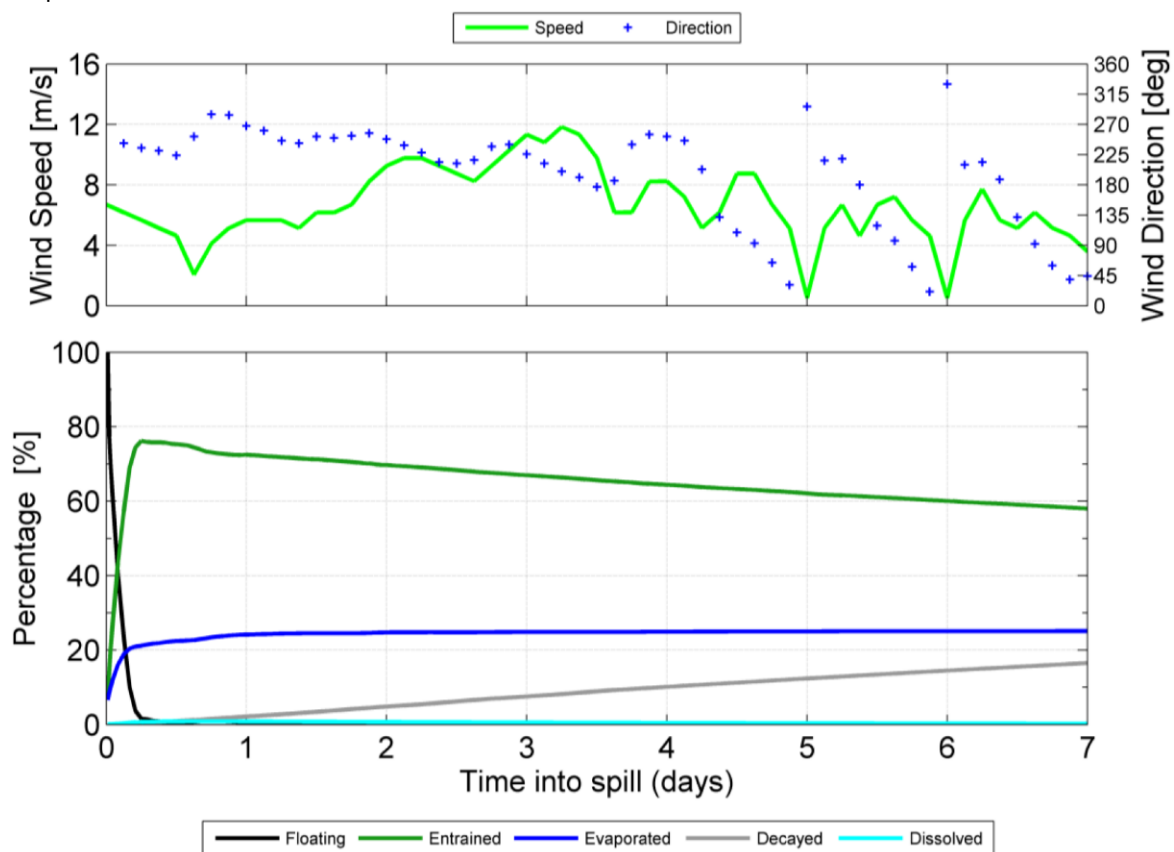


Figure 6-8: Proportional mass balance plot representing the weathering of marine diesel spilled onto the water surface as a one-off release (50 m³ over one hour) and subject to variable wind at 27°C water temperature and 25°C air temperature

Likelihood

In accordance with the Woodside PetDW Risk Matrix, given prevention and mitigation measures in place, the likelihood has been determined as Highly Unlikely.

Consequence assessment

Stochastic modelling predicated that the maximum distance that a 100 m³ spill of diesel above the 1 µm threshold was predicted to travel was approximately 15 km west of the surface release site, after which there was no diesel predicted to remain on the water surface above the selected threshold.

A conservative EMBA is as follows for the 100 m³ diesel spill:

- surface 1 µm – 15 km radius
- entrained >960 ppb.hrs – 19.5 km (0 to 5 m); 11.6 km (5 to 10 m).

The BTEX components in diesel are the main source of toxicity to marine organisms and hence it is generally observed that the toxicity of spilled diesel decreases as the diesel weathers; decreasing from about 8 to 12 ppm for fresh diesel (Neff et al., 2000). A spill of diesel will have an immediate acute impact on the water column biota in the vicinity of the spill origin. Given the water depth throughout the Operational Area is generally greater than ~200 m, a surface spill of diesel would not impact directly on the seafloor benthos.

The diesel EMBA would include sensitive receptors within the water column (entrained), on the water surface including shallow water habitats adjacent to the shore, and effects on shorelines of the mainland and adjacent islands.

The spatial extent and fate (incl. weathering) of the spilled hydrocarbon were considered during the impact assessment for a maximum credible spill scenario from a diesel spill from vessel collision. These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by RPS APASA, available information on environmental sensitivities that may credibly be impacted in the event of a worst-case spill and relevant literature and studies considering the effects of hydrocarbon exposure.

The credible worst-case hydrocarbon spill scenario that may arise from loss of diesel to the marine environment from a vessel collision may impact upon a number of environmental receptors with potential impacts of a hydrocarbon spill to these receptors considered in Section 6.8.2. The consequence was considered to be Measurable (2).

Demonstration of ALARP

Control considered	Control feasibility (F) and cost/sacrifice (CS)⁶⁴	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
Navigation (including lighting, compass/radar), bridge and communication equipment will be compliant with appropriate navigation and vessel safety requirements.	F: Yes. CS: Minimal cost. Standard practice.	Appropriate navigation will reduce the likelihood of interaction of vessels with the Pyrenees Venture FPSO.	Control based on legislative requirement – must be adopted.	Yes C 15.1
Establish and maintain a 500 m PSZ.	F: Yes. CS: Minimal cost. Standard practice.	The PSZ is a requirement under Australian regulations and reduces the likelihood of interaction of vessels with the Pyrenees Venture FPSO.	Control based on legislative requirement – must be adopted.	Yes C 1.2
Crew undertaking vessel bridge-watch will be qualified in accordance with International Convention of STCW95, AMSA Marine Order – Part 3: Seagoing Qualifications or certified training equivalent.	F: Yes CS: Minimal cost. Standard practice.	Suitably qualified personnel undertaking bridge watch will reduce the likelihood and potential consequence of an interaction between a vessel and the Pyrenees Venture FPSO.	Control based on legislative requirement – must be adopted.	Yes C 11.2

⁶⁴ Qualitative measure.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ⁶⁴	Benefit in impact/risk reduction	Proportionality	Control adopted
Contract vessels compliant with Marine Orders for safe vessel operations: - Marine Order 21 (Safety of navigation and emergency procedures) 2016; - Marine Order 27 (Safety of navigation and radio equipment) 2016 - Marine Order 30 (Prevention of collisions) 2016.	F: Yes. CS: Minimal cost. Standard practice.	Marine Orders 21, 27 and 30 are required under Australian regulations; implementation is standard practice for commercial vessels as applicable to vessel size, type and class.	Control based on legislative requirement – must be adopted.	Yes C 1.1
Vessels will have current MARPOL compliant SOPEP and SMPEP – for noxious liquid – the latter may be combined with a SOPEP.	F: Yes. CS: Minimal cost. Standard practice	Compliance with MARPOL Annex I, minimises any potential impacts from any unplanned releases.	Control based on legislative requirement – must be adopted.	Yes C 13.1
Good practice				
Navigational aids (AIS) to avoid collision, and alert personnel of impending collision.	F: Yes. CS: Minimal cost. Standard practice.	Appropriate navigation will reduce the likelihood of interaction of vessels with the Pyrenees Venture FPSO.	Benefits outweigh cost/sacrifice.	Yes C 11.1
Notification of details (e.g. location, duration of activities) of IMMR activities to AMSA which triggers issue of Maritime Safety Information (MSI) notifications and to the AHO.	F: Yes. CS: Minimal cost. Standard practice.	Notification of AHO will enable them to issue a Maritime Safety Information Notifications and Notice to Mariners, thereby reducing the likelihood of unplanned interactions with other vessels.	Benefits outweigh cost/sacrifice.	Yes C 1.5
Maintenance of facility systems in accordance with EPS requirements.	F: Yes. CS: Minimal cost. Standard practice.	PS requirements are design to reduce the potential likelihood of an event.	Benefits outweigh cost/sacrifice.	Yes C 12.4
Implement marine assurance standards: Offshore Vessel Assurance Standard (all vessels except offtake tankers)	F: Yes. CS: Minimal cost. Standard practice.	Formal process of oversight increases effectiveness of marine assurance standards.	Benefits outweigh cost/sacrifice.	Yes C 11.5
Implement offtake procedures: - Offtake Operations Manual - Pyrenees Venture Berthing and Terminal Handbook.	F: Yes. CS: Minimal cost. Standard practice.	Offtake and vessel procedures will reduce the likelihood of an incident.	Benefits outweigh cost/sacrifice.	Yes C 13.3

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)⁶⁴	Benefit in impact/risk reduction	Proportionality	Control adopted
In the event of a spill emergency response activities implemented in accordance with the Pyrenees Facility Oil Pollution First Strike Plan.	F: Yes. CS: Minimal cost. Standard practice.	Rapid response in line with pre-prepared response plan will reduce the scale of potential impacts.	Benefits outweigh cost/sacrifice.	Yes C 10.5
Bridge-watch on OSVs and offtake tankers to be maintained 24 hours per day.	F: Yes. CS: Minimal cost. Standard practice.	Continuous bridge watch will reduce the likelihood and potential consequence of an interaction between a vessel and the Pyrenees Venture FPSO.	Benefits outweigh cost/sacrifice.	Yes C 15.2
All vessels involved in project IMMR activities will incorporate SIMOPS plan to prevent collisions.	F: Yes. CS: Minimal cost. Standard practice.	SIMOPS plan will reduce the likelihood of collision.	Benefits outweigh cost/sacrifice.	Yes C 15.3
Professional judgement – Eliminate				
None identified.				
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
None identified.				
ALARP statement:				
On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the risk of accidental release of diesel from bulk storage. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: In the highly unlikely event of a vessel collision resulting in the loss of bulk storage marine diesel to the marine environment, the stochastic modelling undertaken predicts that no diesel at or above the minimum thickness threshold of 10 µm would contact any shoreline. In all seasons, surface waters to the northwest of the diesel release location would most likely to come into contact with diesel above 10 µm thickness threshold, with no diesel predicted to remain on the water surface past 8 hours. The potential sensitive receptors present in the immediate area of the diesel spill will include fish and marine mammals, marine reptiles and seabirds at the sea surface that become coated in diesel or through ingestion. The impact on these sensitive receptors would be negligible and is likely to be limited to a small number of transient individuals, given the distance from the nearest shoreline and as there are no important areas of habitat are present in the immediate vicinity. In summary, all relevant controls were considered as part of the ALARP assessment, and as no other reasonable additional controls were identified that would further reduce the impacts and risks of an unplanned diesel spill due to vessel collision without a gross disproportionate sacrifice, the impacts and risks are considered ALARP. Woodside undertakes regular consultation with relevant persons about its operations/ activities providing them with sufficient and reasonable opportunities to raise any new concerns or issues for the duration of this Petroleum Activity. Woodside is satisfied that when the accepted controls are implemented that the impact and residual risk of an unplanned diesel spill due to vessel collision is considered 'ALARP' and that adherence to the performance standards will manage the impacts and risks to an acceptable level and demonstrate that the EPOs are met.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
EPO 18 No release of hydrocarbons to the marine environment from diesel bulk storage due to a vessel collision.	C 15.1 Navigation (including lighting, compass/radar), bridge and communication equipment will be compliant with appropriate navigation and vessel safety requirements.	PS 15.1 Navigation (including lighting, compass/radar), bridge and communication equipment will be compliant with appropriate navigation and vessel safety requirements.	MC 15.1 Records demonstrate compliance with standard maritime orders and equipment.
	C 1.2 Refer to Section 6.7.1.	PS 1.2 Refer to Section 6.7.1.	MC 1.2 Refer to Section 6.7.1.
	C 11.2 Refer to Section 6.8.3.	PS 11.2 Refer to Section 6.8.3.	MC 11.2 Refer to Section 6.8.3.
	C 1.1 Refer to Section 6.7.1.	PS 1.1 Refer to Section 6.7.1.	MC 1.1 Refer to Section 6.7.1.
	C 11.1 Refer to Section 6.8.3.	PS 11.1 Refer to Section 6.8.3.	MC 11.1 Refer to Section 6.8.3.
	C 13.1 Refer to Section 6.8.5.	PS 13.1 Refer to Section 6.8.5.	MC 13.1.1, 13.1.2 and 13.1.3 Refer to Section 6.8.5.
	C 11.4 Refer to Section 6.8.3.	PS 11.4 Refer to Section 6.8.3.	MC 11.4 Refer to Section 6.8.3.
	C 1.5 Refer to Section 6.7.1.	PS 1.5 Refer to Section 6.7.1.	MC 1.5 Refer to Section 6.7.1.
	C 15.2 Bridge-watch on OSVs and offtake tankers to be maintained 24 hours per day.	PS 15.2 Bridge-watch on OSVs and offtake tankers to be maintained 24-hours per day.	MC 15.2.1 Vessel Marine Logbook demonstrates bridge-watch maintained 24 hours per day.
	C 15.3 All vessels involved in IMMR activities will incorporate SIMOPS plan to prevent collisions.	PS 15.3 All vessels involved in IMMR activities will incorporate SIMOPS plans to prevent collisions.	MC 15.3.1 Records demonstrate that SIMOPS plans are implemented.
	C 10.5 Refer to Section 6.8.2.	PS 10.5 Refer to Section 6.8.2.	MC 10.5 Refer to Section 6.8.2.
	C 10.6 Refer to Section 6.8.2.	PS 10.6 Refer to Section 6.8.2.	MC 10.6.1 and 10.6.2 Refer to Section 6.8.2.
	C 10.7 Refer to Section 6.8.2.	PS 10.7 Refer to Section 6.8.2.	MC 10.7 Refer to Section 6.8.2.
	C 10.8 Refer to Section 6.8.2.	PS 10.8 Refer to Section 6.8.2.	MC 10.8 Refer to Section 6.8.2.
	C 11.5 Refer to Section 6.8.3.	PS 11.5 Refer to Section 6.8.3.	MC 11.5.1 Refer to Section 6.8.3.
	C 13.3 Refer to Section 6.8.3.	PS 13.3 Refer to Section 6.8.3.	MC 13.3.2 Refer to Section 6.8.3.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
Detailed oil spill preparedness and response performance outcomes, standards and measurement criteria for the Petroleum Activity are presented in Appendix H.			

** Risk considers both likelihood and consequence as set out in Woodside's risk management process outlined in Section 2.6.3. Material releases are defined in PS 10.8.*

6.8.8 Unplanned hydrocarbon or chemical release: transfer, storage and use

Context														
Utility systems – Section 3.15			Physical environment – Section 4.4 Biological environment – Section 4.5 Protected species – Section 4.6					Consultation – Section 5						
Risks evaluation summary														
Source of risk	Environmental value potentially impacted						Evaluation							
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Hydrocarbon spills/ hazardous chemicals or liquid waste, accidental leaks from storage or equipment, including ROVs			x			x		A	1 – Minor	Possible	3	LCS GP	Tolerable	EPO 19
Spills from bulk transfer of chemical from support vessels to Pyrenees Venture FPSO (bulk contents up to 2,000 L)			x			x		A	2 – Measurable	Unlikely	3			
Diesel spill due to human error/ equipment failure during bunkering			x					A	1 – Minor	Unlikely	1			
Source of risk														
Hydrocarbon and chemical use and storage Various hydrocarbons and chemicals are stored onboard the Pyrenees Facility and vessels, to power equipment. Such liquids include fuel, refined oil, lube oil, biocides, corrosion inhibitors, hydraulic oil, lubricating oils, cleaning and cooling agents, and methanol. Accidental loss of such liquids or liquid wastes to the marine environment could occur as a result of spillage during handling, inadequate bunding and/ or storage, inadequate method of securing or tank/pipework failure, leak from equipment or rupture or failure of hoses. The volume of chemical or refined oil likely to be accidentally released from a leak or spillage and be released into the marine environment, based on a review of past incidents and possible causes, is less than approximately 80 L.														
Bulk chemical transfer Chemicals are transferred to the Pyrenees Facility from support vessels by bulk transfer. The most likely spill volume of chemicals during bulk transfer is likely to be less than 200 L based on the volume of the transfer hose and the immediate shutoff of the pumps by personnel involved in the bulk transfer process. However, the worst-case credible spill scenario could result in up to 2,000 L of chemicals being discharged. The chemical used in the largest volume, and therefore the most likely to be discharges in this worst-case spill scenario, is methanol. This unlikely scenario represents a complete failure of the bulk transfer hose combined with a failure to follow procedures (which require transfer activities to be monitored), coupled with a failure to immediately shut off pumps.														

Marine diesel bunkering

Diesel is stored on board the Pyrenees Venture FPSO, off take tanker and OSV as fuel for vessel engines and generators. Diesel could potentially impact the marine environment if accidentally released during diesel transfer operations from Pyrenees Venture FPSO to offtake tanker or OSV to Pyrenees Venture FPSO.

Diesel transfer has the potential to result in an accidental spill to the marine environment. In a review of the risk of spills in the marine environment, the risk of spill of greater than 1 tonne from fuel transfer was found to be 0.18 spills per year from all transfer operations in Australian waters. There is very little data on the frequency of spills from ship to ship transfers. AMSA (DNV, 2011) noted that the UK experience of ship-to-ship transfer was estimated to be one spill over 1 tonne in 2,000 tanker offloading operations, giving a spill frequency of 5×10^{-4} per transfer operation.

The potential causes of such an event occurring has been identified as:

- Failure of the hoses during pumping. The maximum credible spill that would occur from total failure of a diesel transfer hose is approximately 450 L (volume of 100 m of 75 mm diameter hose) plus allowance for time to shut down the pump. The most credible response time is considered to be 15 seconds; the worst case is considered to be two minutes if the operator is absent or not vigilant. The calculated loss (assuming an average pumping rate of 225 m³ per hour) is 1.4 m³ diesel. If compounded by human error the volumes could potentially increase to 7.5 m³ for diesel (estimated probability of 0.028%). For conservativeness, a spill volume of 10 m³ was considered in the risk assessment.
- Failure of connections or valves at disconnection. Valves are dry break but if a valve was to fail at disconnection worst-case loss would result in contents of the hose, approximately 450 L, being released to sea.

Quantitative diesel spill risk assessment

For the environmental conditions experienced in the Pyrenees Facility Operations Area, diesel is expected to undergo rapid spreading and this, together with evaporative loss, will result in a relatively rapid slick break up. Numerical modelling completed as part of the Pyrenees Expansion was used to predict the trajectory and fate of 10 m³ of spilled diesel from the Pyrenees Facility. This volume represents worst case (7.5 m³) plus a further conservative additional volume. The model was set to provide data on final surface loading of 10 g/m². The selected thickness is equivalent to a concentration of approximately 10 ppm if the diesel was to be distributed throughout the top 1 m of water column. These concentrations were chosen as the end point because 10 ppm of diesel represents 24 hour LC50 for sensitive species (24-hour LC50 range for diesel is approximately 2 to 600 ppm depending on species and life cycle stage – US EPA Toxbase).

The maximum distance that diesel above the 10 g/m² threshold was predicted to travel was approximately 3.0 km west of the surface release site at the well location, after which there was no diesel predicted to remain on the water surface above the thickness threshold of 10 g/m².

The stochastic modelling demonstrated that visible hydrocarbons would be clear of the water surface within 25 hours. Under the annual conditions assessed, no contact with the shorelines was predicted.

Consequence assessment**Marine diesel**

Given the low viscosity of marine diesel, along with the high portion of volatile components, a spill of up to 7.5 m³ of marine diesel during transfer, storage or use would spread and weather rapidly. Environmental receptors at risk would be restricted to those in the immediate vicinity and may include:

- marine fauna, particularly fauna associated with the sea surface (e.g. seabirds, air breathing vertebrates)
- plankton.

Given the relatively small worst-case credible release volume, the non-persistent nature of marine diesel and the low sensitivity of the immediate receiving environment within the Operational Area (i.e. offshore open water environment, refer to Section 4) potential impacts are expected to be short term (< 1 year) and confined to less than 3 km from the release location. Such impacts may include:

- localised decrease in water quality
- acute toxic effects to planktonic organisms in the immediate area of the spill.

Impacts to plankton may include acute toxicity resulting in mortality of planktonic organisms. Given the rapid turn-over of plankton communities, these impacts would be short-lived (hours to days). Impacts to fish are expected to be of no lasting effect, as fish species are mobile and expected to avoid the area affected by a marine diesel spill. Impacts to larger fauna such as cetaceans and marine turtles are expected to be light fouling, potentially resulting in irritation of sensitive membranes such as the eyes, mouth, and digestive system (Helm et al., 2015). Mortality of larger fauna is not expected to occur. No impacts to ecosystem function are expected.

No impacts are predicted to the canyons linking the Cuvier Abyssal and the Cape Range Peninsula or the Continental Slope Demersal Fish Communities KEFs. Although, they do overlap the Operational Area (see Section 4), they are well outside the spill impact zone due to their depths.

Minor, short-term impacts may occur to other marine users (e.g. commercial fisheries); however, as the worst case marine diesel spill is only 7.5 m³, and there is already no fishing within the PSZ, it is unlikely there would be any significant impact to commercial fishers.

Chemicals and non-process hydrocarbons

Monoethylene glycol and TEG are miscible in water; both are rated OCNS Group E and monoethylene glycol is considered to pose little or no risk. A maximum credible spill of monoethylene glycol or TEG is expected to mix with the receiving environment with no lasting environmental impact. Accidental releases of chemicals (including corrosion inhibitor) or non-process hydrocarbons decrease the water quality in the immediate area of the release. The consequence is expected to be a minor short-term impact, given the open ocean mixing environment, distance from sensitive receptors and relatively low credible release volumes.

Depending on the chemical released, the toxicity and/or potential to bioaccumulate may potentially result in localised impacts to water quality, sediment quality, pelagic fish or other marine species in the vicinity of the discharge. Potential impacts to plankton from an accidental chemical spill may include acute toxicity, resulting in mortality of planktonic organisms. Given the rapid turnover of plankton communities and nature and scale of the credible releases, these impacts would be short-lived (hours to days). Impacts to fish are expected to be of no lasting effect, as fish species are mobile and expected to avoid the area affected by an accidental chemical spill. Impacts to air-breathing fauna such as cetaceans, birds and marine turtles are expected to be restricted to irritation of sensitive membranes, such as the eyes, mouth and digestive system.

Minor short-term impacts may occur to other marine users (e.g. commercial fisheries); however, as there is minimal fishing effort within the Operational Area, it is unlikely there would be any significant impact to commercial fishers.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)⁶⁵	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
Contract vessels compliant with Marine Order 91 (Marine pollution prevention – oil) for safe vessel operations.	F: Yes. CS: Minimal cost. Standard practice.	Legislative requirements to be followed reduce the likelihood of an unplanned release. The consequence is unchanged.	Control based on legislative requirement – must be adopted.	Yes C 16.1
Vessels will have current MARPOL compliant SOPEP and SMPEP – for noxious liquid – the latter may be combined with a SOPEP.	F: Yes. CS: Minimal cost. Standard practice.	Compliance with MARPOL Annex I, minimises any potential impacts from any unplanned releases.	Control based on legislative requirement – must be adopted.	Yes C 13.1
Good practice				
Chemicals will be selected with the lowest practicable environmental impacts and risks subject to technical constraints.	F: Yes. Routinely implemented to the chemical selection process for Woodside facilities. CS: Minimal cost. Standard practice.	Selection and assessment of chemicals in accordance with the Woodside process, reduces environmental impacts associated with accidental discharge.	Benefits outweigh cost/sacrifice.	Yes C 8.1
Diesel bunkering hoses to have dry break couplings and be pressure rated at purchase.	F: Yes. CS: Minimal cost. Standard practice.	Reduces the likelihood of a hose failure.	Benefits outweigh cost/sacrifice.	Yes C 16.2
Incident reports are raised for unplanned releases within event reporting system.	F: Yes. CS: Minimal cost. Standard practice.	Good practice that operators identify, report and learn from unplanned release events. Supports compliance with regulatory reporting requirements.	Control based on Woodside standard and regulatory requirements.	Yes C 10.8

⁶⁵ Qualitative measure.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ⁶⁵	Benefit in impact/risk reduction	Proportionality	Control adopted
Implementation of bunkering procedures.	F: Yes. CS: Minimal cost. Standard practice.	Implements a procedure to outline the methods and requirements for undertaking safe bunkering. This reduces the likelihood of a bunkering incident. Fuel and chemical handling and transfer procedures are required by EPBC Act 1999 Ministerial Approval Decision April 2006 (EPBC 2005/2034) Conditions.	Benefits outweigh cost/sacrifice.	Yes C 16.3
Professional judgement – Elimination				
Deadman's switch on fuel transfer hose.	F: No. Impractical as control has to be constantly operated for the duration of the transfer (for example, the handle on a petrol bowser that needs to be depressed). CS: Not assessed.	Not assessed as control not feasible.	Not assessed – control not feasible.	No
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
None identified.				
ALARP statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts of accidental spills of hydrocarbons or chemicals from bunkering/refuelling and from storage, use and transfer. As no reasonable additional/alternative controls were identified that would further reduce the consequences and risks without grossly disproportionate sacrifice, the risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The consequence assessment has determined that, given the adopted controls, accidental spills during bunkering/refuelling, or spills from storage, transfer and use represent a moderate risk rating that is unlikely to result in a consequence greater than Minor temporary impact to the environment, where the ecosystem functions recover with little intervention. Further opportunities to reduce the risks have been investigated above. The magnitude of the worst-case spill is unlikely to be greater than 10 m ³ . Stochastic modelling undertaken for a spill of this magnitude predicts that no shoreline or coastal reef habitats will be contacted by hydrocarbons at the modelled thresholds. More than 50% of the diesel would be evaporated within eight hours of an accidental spill and the oceanic location is such that any spills would be rapidly diluted and dispersed, with any environmental effects being temporary and localised, with significant impacts not expected owing to the short exposure timeframe. The adopted controls are considered good oil-field practice/industry best practice and meet requirements of Australian Marine Orders. The potential risks are considered tolerable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the risks of bunkering/refuelling, and storage, transfer and use to a level that is tolerable and demonstrate that the EPOs are met.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
EPO 19 No release of hydrocarbons or chemicals to the marine environment.	C 16.1 Contract vessels compliant with Marine Order 91 (Marine pollution prevention – oil) for safe vessel operations.	PS 16.1 Vessels compliant with Marine Orders as applicable to vessel size, type and class.	MC 16.1 Marine verification records demonstrate compliance with standard maritime safety procedures (Marine Order 91).
	C 13.1 Refer to Section 6.8.5.	PS 13.1 Refer to Section 6.8.5.	MC 13.1.1, 13.1.2 and 13.1.3 Refer to Section 6.8.5.
	C 8.1 Refer to Section 6.7.6.	PS 8.1 Refer to Section 6.7.6.	MC 8.1 Refer to Section 6.7.6.
	C 16.2 Diesel bunkering hoses to have dry break couplings and be pressure rated at purchase.	PS 16.2 All diesel transfer hoses to have dry break couplings and pressure rating suitable for intended use.	MC 16.2 Records demonstrate diesel transfer hoses are fitted with dry break couplings and are pressure rated.
	C 16.3 Implementation of bunkering procedures.	PS 16.3 Implement Pyrenees Diesel Oil Bunkering Operations Procedure. Key requirements include: - Bunkering will commence during daylight hours only and proceed only in acceptable sea state conditions. - Communications between the supply vessel and facility bunker station will be maintained during bunkering. - Hoses, couplings and sea surface will be visually monitored during refuelling. - Tank levels will be monitored continuously on the facility. - Spill clean-up equipment will be available in proximity to the bunker station. - Bunkering hose inventory will be drained to the supply vessel before disconnection.	MC 16.3 Records demonstrate bunkering undertaken in accordance with facility and contractor bunkering procedures.
	C 10.5 Refer to Section 6.8.2.	PS 10.5 Refer to Section 6.8.2.	MC 10.5 Refer to Section 6.8.2.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
	C 10.6 Refer to Section 6.8.2.	PS 10.6 Refer to Section 6.8.2.	MC 10.6.1 and 10.6.2 Refer to Section 6.8.2.
	C 10.7 Refer to Section 6.8.2.	PS 10.7 Refer to Section 6.8.2.	MC 10.7 Refer to Section 6.8.2.
	C 10.8 Refer to Section 6.8.2.	PS 10.8 Refer to Section 6.8.2.	MC 10.8 Refer to Section 6.8.2.
Detailed oil spill preparedness and response performance outcomes, standards and measurement criteria for the Petroleum Activity are presented in Appendix H.			

** Risk considers both likelihood and consequence as set out in Woodside's risk management process outlined in Section 2.6.3. Material releases are defined in PS 10.8.*

6.8.9 Unplanned discharges: hazardous and non-hazardous waste management

Context														
Waste management – Section 3.20			Physical environment – Section 4.4 Biological environment – Section 4.5				Consultation – Section 5							
Risks evaluation summary														
Source of risk	Environmental value potentially impacted						Evaluation							
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Incorrect disposal or accidental discharge of non-hazardous and hazardous waste to the marine environment		X	X			X		A	1 – Minor	Highly Unlikely	0.3	LCS GP	Tolerable	EPO 20
Dropped objects from support/logistical operations – vessel to vessel lifting (e.g. containers and materials)		X	X			X		A	1 – Minor	Unlikely	1			
Source of risk														
Normal operations on the Pyrenees Facility and vessels results in a variety of hazardous and non-hazardous wastes. These materials could potentially impact the marine environment if incorrectly disposed of, lost overboard, or accidentally discharged. Non-hazardous wastes include domestic and industrial wastes, such as aluminium cans, bottles, paper and cardboard, scrap steel. Hazardous wastes include recovered solvents, excess or spent chemicals, oil contaminated materials (e.g. sorbents, filters and rags), batteries, used lubricating oils and potentially material containing NORMs. Sand and sludges may also be periodically generated during well clean-up operations, de-sanding and vessel maintenance. Equipment (small hand-held tools) and personal protective equipment may be accidentally lost overboard. Equipment that has been recorded as being lost on other similar facilities and vessels has primarily been windblown or dropped overboard and has included things such as hardhats, gloves, safety glasses and small tools or materials. Equipment (small hand-held tools) and personal protective equipment are not classified as waste as per the Waste Management Plan and are not included any further in this risk assessment. Equipment (small hand-held tools) and personal protective equipment lost overboard are recorded, investigated and corrective actions tracked as per requirements in Section 7.11.5 and Section 7.14.5. Loss of hazardous and non-hazardous wastes have occurred during backloading activities, periods of adverse weather and incorrect waste storage. All waste materials not suitable for discharge to the environment that are generated on the Pyrenees Facility, including hazardous wastes (i.e. liquid and solid wastes), are transported to shore for disposal or recycling by Woodside's licenced waste contractor.														

Consequence assessment

The potential impacts of solid wastes accidentally discharged to the marine environment include direct pollution and contamination of the marine environment and secondary impacts relating to potential contact of marine fauna with wastes resulting in entanglement or ingestion and potentially leading to injury and death of individual animals. Solid material accidentally lost to the marine environment could potentially lead to slight localised contamination of benthic sediments. If NORMs are detected in the operations, NORMs will be managed in accordance with the relevant requirements, so that there are no impacts on the environment.

The temporary or permanent loss of waste materials into the marine environment is not likely to have a significant environmental impact based on the location of the Operational Area, the types, size and frequency of wastes that could occur, and the species present.

Demonstration of ALARP

Control considered	Control feasibility (F) and cost/sacrifice (CS)⁶⁶	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
Contract vessels compliant with Marine Orders for safe vessel operations: - Marine Order 94 (Marine pollution prevention – packaged harmful substances) 2014 - Marine Order 95 (Marine pollution prevention – garbage).	F: Yes. CS: Minimal cost. Standard practice.	Implementation of Marine Orders 94 and 95 reduces the likelihood of a harmful substance being released to the environment. Implementation is standard practice for commercial vessels as applicable to vessel size, type and class.	Controls based on legislative requirements – must be adopted.	Yes C 17.1
Management and handling of NORMs in accordance with Australian Radiation Protection and Nuclear Safety Agency guidelines.	F: Yes. CS: Minimal cost. Standard practice.	Australian Regulations require NORMs to be managed for appropriate classification, handling and disposal.	Controls based on legislative requirements – must be adopted.	Yes C 17.6
Good practice				
Implementation of waste management procedures.	F: Yes. CS: Minimal cost. Standard practice.	Reduces the likelihood of a release of waste to the environment by providing guidance on storage, handling and transport of wastes.	Benefit outweighs cost/sacrifice.	Yes C 17.2
Recovery of dropped objects where practical to do so and when recovery will provide a net environmental benefit.	F: Yes. CS: Minimal cost. Standard practice.	Reduced the impacts of extended disturbance to the seabed, or potential entanglement of fauna in surface or in-water waste.	Benefit outweighs cost/sacrifice.	Yes C 17.3
Lifting equipment integrity will be maintained to prevent dropped objects.	F: Yes. CS: Minimal cost. Standard practice.	Reduces the likelihood of failure resulting in dropped objects.	Benefit outweighs cost/sacrifice.	Yes C 17.4
Professional judgement – Elimination				
Lifting procedures applied by all vessels to minimise risk of dropped objects.	F: Yes. CS: Minimal cost. Standard practice.	Reduces the likelihood of failure resulting in dropped objects.	Benefit outweighs cost/sacrifice.	Yes C 17.5

⁶⁶ Qualitative measure.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ⁶⁶	Benefit in impact/risk reduction	Proportionality	Control adopted
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
None identified.				
ALARP statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts and risks of accidental discharge of non-hazardous and hazardous wastes. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The consequence assessment has determined that, given the adopted controls, the accidental discharge of non-hazardous waste and hazardous waste represent a moderate risk rating and is unlikely to result in a consequence greater than slight, short-term impacts to water quality, marine sediments and marine species. Woodside, across its operations (including the Pyrenees Facility) has a well-established waste management culture which underpins a strong performance and limits the potential for accidental releases to the marine environment. Opportunities to reduce waste management impact and risks are employed through standard practice such as job planning, implementation of the Waste Management Plan on Pyrenees Venture FPSO, and job hazard analysis practices. The adopted controls are considered good oil-field practice/industry best practice and meet relevant Commonwealth and WA State regulatory requirements. The potential impacts and risks are considered tolerable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of accidental discharge of non-hazardous and hazardous waste to a level that is tolerable and demonstrate that the EPOs are met.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
EPO 20 No release of hazardous and non-hazardous waste ⁶⁷ to the marine environment.	C 17.1 Contract vessels compliant with Marine Orders for safe vessel operations: - Marine Order 94 (Marine pollution prevention – packaged harmful substances) 2014 - Marine Order 95 (Marine pollution prevention – garbage).	PS 17.1 Vessels compliant with Marine Orders as applicable to vessel size, type and class.	MC 17.1 Marine verification records demonstrate compliance with standard maritime safety procedures (Marine Orders 21 and 30).

⁶⁷ Waste as defined in the Waste Management Plan.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
	C 17.2 Implementation of the Waste Management Plan on Pyrenees Venture FPSO which provide for safe handling and transportation, segregation and storage and appropriate classification of all waste generated.	PS 17.2 Implementation of the Waste Management Plan on Pyrenees Venture FPSO, including: - Waste shall be segregated and stored. - Records of all waste to be disposed, treated or recycled shall be maintained, and shall include (though not limited to) quantity of waste, waste type and disposal/recycle location. - Waste streams shall be appropriately handled, tested, monitored and managed according to their hazard and recyclability class.	MC 17.2 Records demonstrate implementation of the Waste Management Plan on Pyrenees Venture FPSO.
	C 17.3 Recovery of solid wastes/equipment lost overboard attempted where safe and practicable for this activity, considering: - risk to personnel to retrieve object - whether the location of the object is in recoverable water depths - object's proximity to subsea infrastructure - ability to recover the object (i.e. nature of object, lifting equipment or, ROV availability and suitable weather). Any material dropped objects/ waste that remain in the title will undergo an impact assessment and be added to the inventory.	PS 17.3.1 Material* solid waste/ equipment dropped to the marine environment will be recovered where safe and practicable to do so. Where retrieval is not practicable and/or safe, material items (property) that are lost to the marine environment will undergo an impact assessment and will be added to the inventory for the title. <i>*For the purposes of this control/performance standard 'material' is defined as unplanned releases of waste events with an environmental consequence greater than a Minor impact.</i> PS 17.3.2 Recordable incident reports raised for unplanned loss of Material solid waste/equipment dropped to the marine environment will be recovered where safe and practicable to do so. Where retrieval is not practicable and/or safe, material items (property) that are lost to the marine environment will undergo an impact assessment and will be added to the inventory for the title.	MC 17.3.1 Records demonstrate outcomes of the safe and practicable evaluation, including an impact assessment for the objects remaining. MC 17.3.2 Records demonstrate applicable recordable incident notifications completed.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
	C 17.4 Lifting equipment integrity will be maintained to prevent dropped objects.	PS 17.4 Integrity will be managed in accordance with Pyrenees Critical Equipment Performance Standard – Fixed and Portable Lifting Equipment (PYAIMS-PS-0006-010).	MC 17.4 Records demonstrate compliance with EPS requirements.
	C 17.5 Lifting procedures applied by all vessels to minimise risk of dropped objects.	PS 17.5 Work (lifting/operating) procedures are in place.	MC 17.5 Records verify lifting/operating procedure in place.
	C 17.6 Management of NORMs in accordance with Australian Radiation Protection and Nuclear Safety Agency guidelines.	PS 17.6 In the event that waste materials are routinely identified as NORMS (above exempted levels) disposal will be coordinated in line with Management of NORMs guidelines (Radiation Health and Safety Advisory Council, 2005), and State waste management requirements for appropriate waste disposal.	MC 17.6 Waste management records demonstrate appropriate handling and disposal of NORMs classified material.

* Risk considers both likelihood and consequence as set out in Woodside's risk management process outlined in Section 2.6.3.

6.8.10 Physical presence: interaction with live infrastructure

Context													
Support vessel operations – Section 3.17 Subsea IMMR activities 3.19				Socio-economic environment – Section 4.9.5.3.110				Consultation – Section 5					
Risks evaluation summary													
Source of risk	Environmental value potentially impacted					Evaluation							
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Severity level	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Interaction with live infrastructure from dropped objects						X	A	2 – Measurable	Unlikely	3	LCS GP	Tolerable	EPO 21
Source of risk													
As detailed in Section 4.10.5, the Operational Area overlaps the Operational Area associated with the operation of Woodside’s Macedon field. This area of overlap includes live infrastructure associated with the Macedon-6 well. During IMMR activities there is potential for IMMR vessels to be operating over and/or near the live Macedon infrastructure that is overlapped by the Operational Area. Dropped objects There is the potential for objects to be dropped overboard from the IMMR vessels to the marine environment. Objects that have been dropped during previous offshore activities include small numbers of personal protective gear (e.g. glasses, gloves, hard hats), small tools (e.g. spanners), hardware fixtures (e.g. riser hose clamp). However, there is potential for larger equipment to be dropped during the activity depending on the nature of IMMR activities within the Operational Area. The spatial extent in which dropped objects can occur is restricted to the Operational Area.													
Consequence assessment													
Potential impacts to environmental values													
Interactions with other marine users													
In the unlikely event of an object being dropped on live infrastructure there is potential impacts to the infrastructure. Within the Operational Area, there is infrastructure associated with the Macedon Field Production System operated by Woodside. If interactions with live infrastructure were to occur, Woodside would notify the relevant operations team in accordance with the SIMOPS plan. This would trigger responses from the operator to assess and respond to any damage caused in accordance with the relevant operations EP for the live infrastructure. Under Regulation 56 of the Environment Regulations, a titleholder may refer NOPSEMA to information previously given to NOPSEMA for another purpose under the OPGGS Act, the Environment Regulations or any other regulations made under the Act, to comply with a requirement on the titleholder under the Environment Regulations to give NOPSEMA information or include information in a document. In accordance with Regulation 56, NOPSEMA is referred to the relevant operations EP⁶⁸ submitted by Woodside, and accepted by NOPSEMA, for the detail of the assessment and response in such a scenario. Potential impacts therefore include time and costs associated with inspecting the infrastructure and time and costs associated with any associated repair, which are expected to be slight and short-term in nature.													

⁶⁸ Macedon Operations EP (NOPSEMA Doc A680730, <https://docs.nopsema.gov.au/A680730>).

Potential subsequent loss of containment

In the unlikely event of an object being dropped on live infrastructure, and in the further unlikely event of a severe interaction with the infrastructure, there is a possibility that live infrastructure could be ruptured releasing hydrocarbons into the marine environment in such a scenario. In accordance with Regulation 56, NOPSEMA is referred to the relevant operations EPs submitted by Woodside for the operation of the live infrastructure associated with the Macedon field production system, and accepted by NOPSEMA, for the detail of potential impacts, receptors and the extent of the environment that may be affected in such a scenario, being:

- Macedon Operations EP (NOPSEMA Doc A680730, <https://docs.nopsema.gov.au/A680730>).

As detailed in this section above and below, this EP addresses the risks and impacts (interaction with live infrastructure) that arise from the activities under this EP (interaction from dropped objects). This EP also contains controls to prevent such an event from occurring that are within the operational control of this EP. As detailed in this Section, the operational control, maintenance and incident response associated with the live infrastructure and/or loss of containment from the live infrastructure is not within the operational control of this EP. As detailed below, the risks and impacts of the activities under this EP are managed to ALARP and an acceptable level by implementing the SIMOPS plan and notifying the relevant operators in the instance of an interaction with live infrastructure to allow the relevant operator's detailed response strategies under the relevant operations EPs to be triggered, if required. In the event of a loss of containment caused by an interaction with live infrastructure Woodside will follow direction from the Macedon operations team and will respond as per the relevant requirements. In accordance with Regulation 56, NOPSEMA is referred to the relevant operations EP submitted by Woodside for the live infrastructure associated Macedon field production system, and accepted by NOPSEMA, for the detail of the operational control, maintenance and incident response associated with the live infrastructure and/or loss of containment from the live infrastructure.⁶⁹

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS) ⁷⁰	Benefit in impact/risk reduction	Proportionality	Control adopted
Good practice				
Recovery of dropped objects where practical to do so and when recovery will provide a net environmental benefit.	F: Yes. CS: Minimal cost. Standard practice.	Reduced the impacts of extended disturbance to the seabed, or potential entanglement of fauna in surface or in-water waste.	Benefit outweighs cost/sacrifice.	Yes C 17.3
Lifting equipment integrity will be maintained to prevent dropped objects.	F: Yes. CS: Minimal cost. Standard practice.	Reduces the likelihood of failure resulting in dropped objects.	Benefit outweighs cost/sacrifice.	Yes C 17.4
Professional judgement – Eliminate				
No additional controls identified.				
Professional judgement – Substitute				
No additional controls identified.				
Professional judgement – Engineered solution				
Lifting procedures applied by all vessels to minimise risk of dropped objects.	F: Yes. CS: Minimal cost. Standard practice.	Reduces the likelihood of failure resulting in dropped objects.	Benefit outweighs cost/sacrifice.	Yes C 17.5
ALARP statement:				
Woodside considers the adopted controls appropriate to manage the risks of a significant dropped object or anchor drag interacting with live infrastructure within the Operational Area. As no reasonable additional/alternative controls were identified that would further reduce the risks and consequences without disproportionate sacrifice, the risks and consequences are considered ALARP.				

⁶⁹ Macedon Operations EP (NOPSEMA Doc A680730, <https://docs.nopsema.gov.au/A680730>).

⁷⁰ Qualitative measure.

Demonstration of acceptability**Acceptability statement:**

The impact assessment has determined that interaction with live infrastructure from dropped objects or a loss of station keeping of an IMMR vessel represents a low current risk rating and is unlikely to result in a risk consequence greater than slight. The adopted controls are considered industry good practice.

The potential risks and consequences are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the risks of seabed disturbance from dropped objects/anchor drag to an acceptable level and demonstrate that the EPOs are met.

Environmental performance outcomes, standards and measurement criteria

Outcomes	Controls	Standards	Measurement Criteria
EPO 21 No interaction with live infrastructure.	C 17.3 Refer to Section 6.8.9.	PS 17.3.1 and 17.3.2 Refer to Section 6.8.9.	MC 17.3.1 and 17.3.2 Refer to Section 6.8.9.
	C 17.4 Refer to Section 6.8.9.	PS 17.4 Refer to Section 6.8.9.	MC 17.4 Refer to Section 6.8.9.
	C 17.5 Refer to Section 6.8.9.	PS 17.5 Refer to Section 6.8.9.	MC 17.5 Refer to Section 6.8.9.

* Risk considers both likelihood and consequence as set out in Woodside's risk management process outlined in Section 2.6.3. Material releases are defined in PS 10.8.

6.8.11 Physical presence: vessel collision with marine fauna

Context														
Vessels – Section 3.17				Protected species – Section 4.6				Consulting – Section 5						
Risks evaluation summary														
Source of risk	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Physical presence of vessels resulting in collision with marine fauna						X		A	1 – Minor	Unlikely	1	LCs	Tolerable	22
Source of risk														
The vessels operating in the Operational Area may present a potential hazard to cetaceans and other protected marine fauna, such as whale sharks and marine reptiles. Vessel movements can result in collisions between the vessel (hull and propellers) and marine fauna, potentially resulting in superficial injury, serious injury that may affect life functions (e.g. movement and reproduction), and mortality. The factors that contribute to the frequency and severity of impacts due to collisions include vessel type, vessel operation (specific activity, speed), physical environment (e.g. water depth) and the type of animal potentially present and their behaviours. There is a requirement that all vessels within the Operational Area move at low speeds, generally less than 8 knots, unless in an emergency.														
Consequence assessment														
The likelihood of vessel/whale collision being lethal is influenced by vessel speed; the greater the speed at impact, the greater the risk of mortality (Jensen & Silber, 2004; Laist et al., 2001). Vanderlaan & Taggart (2007) found that the chance of lethal injury to a large whale as a result of a vessel strike increases from about 20% at 8.6 knots to 80% at 15 knots. According to the data of Vanderlaan & Taggart (2007), it is estimated that the risk is less than 10% at a speed of 4 knots. Vessel-whale collisions at this speed are uncommon and, based on reported data contained in the US NOAA database (Jensen & Silber, 2004) there only two known instances of collisions when the vessel was travelling at less than 6 knots, both of these were from whale watching vessels that were deliberately placed among whales. Vessels undertaking the Petroleum Activity within the Operational Area are likely to be travelling less than 8 knots; much of the time vessels are holding station. Therefore, the risk of a vessel collision with protected species resulting in death is inherently low. The Operational Area overlaps the humpback whale migration BIA, where humpback whales are seasonally abundant during their annual migrations. Aerial surveys undertaken by Woodside indicate that the majority of humpback whales migrating in the region typically occur east of the Operational Area; the majority of the whales occurred in depths less than 500 m, with the greatest density of whales concentrated in water depths of 200 to 300 m (RPS Environment and Planning, 2010a). It is expected that humpback whales could occur within the Operational Area during their seasonal migration period; however, harmful interactions between vessels and humpback whales in the Operational Area are considered highly unlikely due to the slow speed of vessels in the Operational Area. A pygmy blue whale migration BIA also overlaps the Operational Area. Analysis of underwater noise logger data indicated pygmy blue whales are present in waters off North West Cape between October to December (northbound migration) and April to August (southbound migration) (McCauley & Jenner, 2010). Satellite tagging studies have shown pygmy blue whales migrating along the WA coast near the Operational Area in water depths between 200 m and 1,000 m, which includes the depth range of the Operational Area (approximately 340 to 849 m). Pygmy blue whales were not recorded in a series of whale monitoring flights between July and September (RPS Environment and														

Planning, 2010a), although these flights were intended to record humpback whales and did not extensively sample deeper waters preferred by pygmy blue whales.

Given the seasonality of humpback whales in the Operational Area, and seasonality and low density of pygmy blue whales recorded in the Operational Area, harmful interactions between vessels and whales during the Petroleum Activity are considered unlikely. Given the typical speeds of vessels within the Operational Area, any collision between vessels and whales is not expected to result in mortality.

The nearest BIAs and habitat critical for the southern right whale being 18 km from the Operational Areas therefore it is not expected that there is a risk of vessel strike.

Whale sharks are at risk from vessel strikes when feeding at the surface, or in shallow waters where there is limited option to dive. Whale sharks may traverse offshore waters, including the Operational Area, during their migrations to and from Ningaloo Reef, and a BIA for foraging whale sharks overlaps the Operational Area. However, it is not expected whale sharks would occur in large numbers within the Operational Area, given there is no main aggregation area within the vicinity of the Operational Area, and their presence would be transitory and of a short duration. There are no constraints preventing whale sharks from moving away from vessels (e.g. shallow water or shorelines).

The Operational Area overlaps or is adjacent to foraging and interbreeding BIAs and habitats critical to the survival of green turtle, loggerhead turtle, leatherback turtle and Hawksbill turtle. The nearest nesting habitat is 18 km for green turtle and loggerhead turtle nesting BIAs, at Muiron Island. Water depth within the Operational Area is approximately 200 m. With consideration of the absence of potential nesting or foraging habitat for turtles (i.e. no emergent islands, reef habitat or shallow shoals) and the water depth, it is considered that the Operational Area is unlikely to represent important habitat for marine turtles. Individual turtles may infrequently transit the area. It is acknowledged that there are significant nesting sites along the mainland coast and islands of the region.

The typical response from turtles on the surface to the presence of vessels is to dive (a potential “startle” response), which decreases the risk of collisions (Hazel et al., 2007). As with cetaceans, the risk of collisions between turtles and vessels increases with vessel speed (Hazel et al., 2007). Given the low speeds of vessels undertaking the Petroleum Activity, along with the expected low numbers of turtles within the Operational Area, interactions between vessels and turtles are considered highly unlikely. It is unlikely that vessel movement associated with the Petroleum Activity will have a significant impact on marine fauna populations, given:

- the low presence of transiting individuals
- avoidance behaviour commonly displayed by whales, whale sharks and turtles
- low operating speed of the Petroleum Activity support vessels (generally less than 8 knots or stationary, unless operating in an emergency).

Activities are considered unlikely to result in a consequence greater than minor short-term disruption to individuals or a small proportion of the population, and no impact on critical habitat or fauna activity.

Demonstration of ALARP				
<i>Control considered</i>	<i>Control feasibility (F) and cost/ sacrifice (CS)⁷¹</i>	<i>Benefit in impact/risk reduction</i>	<i>Proportionality</i>	<i>Control adopted</i>
Legislation, codes and standards				
EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with cetaceans will be implemented to reduce the likelihood of collision with marine fauna.	F: Yes. CS: Minimal cost. Standard practice.	Reductions in speed around protected fauna reduce the likelihood of collision.	Controls based on legislative requirements – must be adopted.	Yes C 5.1
Good practice				
None identified.				

⁷¹ Qualitative measure.

Demonstration of ALARP				
Professional judgement – Eliminate				
Prevent or reduce use of vessels during peak migration periods.	F: No. No alternative to the use of vessels during the Petroleum Activity was identified. Given that vessels must be used to undertake the Petroleum Activity. There is no feasible means to eliminate the source of risk. CS: Not assessed, control not feasible.	The use of vessels is essential to the Petroleum Activity. Reducing the numbers of the vessels in the vessel operations area would increase the duration of the activities and affect the safety of operations.	Costs are disproportionate to benefits in impact reduction.	No
Professional judgement – Substitute				
None identified.				
Professional judgement – Engineered solution				
Passive acoustic monitoring to detect cetaceans in the vicinity of the vessels.	F: Yes. CS: The cost of a PAM system has been estimated to be unacceptably high and would require several permanent mooring locations in the Operations Area with real time monitoring and analysis.	Identification of marine fauna might enable vessels to reduce speed or change direction to avoid interactions.	Given that support vessels in this area would be moving slowly (hence little chance of collision with whales) it is considered that the cost is grossly disproportionate to the benefit that may be gained.	No
ALARP statement: On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the risk of vessel collision with marine fauna. As no reasonable additional/alternative controls were identified that would further reduce the impacts and risks without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The risk assessment has determined that, given the adopted controls, vessel collision with marine fauna represents a tolerable risk rating that is expected to result in no lasting effect to fauna populations and no impact on critical habitat or activity. Further opportunities to reduce the impacts and risks have been investigated above. The adopted controls are considered good oil-field practice/industry best practice and meet the requirements of Part 8 (Division 8.1) of the EPBC Regulations 2000. The potential impacts and risks are considered tolerable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of vessel collision with marine fauna to a level that is tolerable and demonstrate that the EPOs are met.

EPOs, EPSs and MC			
Environmental performance outcomes	Controls	Environmental performance standards	Measurement criteria
EPO 22 No injury of, or mortality to, EPBC Act 1999 listed marine fauna as a result of the Petroleum Activity.	C 5.1 Refer to Section 6.7.4.	PS 5.1 Refer to Section 6.7.4.	MC 5.1.1 Refer to Section 6.7.4.
			MC 5.1.2 Refer to Section 6.7.4.

6.8.12 Physical presence: introduction of invasive marine species

Context														
Support vessel operations – Section 3.17 FPSO disconnected mode – Section 3.12.2				Biological environment – Section 4.5 Protected species – Section 4.6				Consultation – Section 5						
Risks evaluation summary														
Source of risk	Environmental value potentially impacted							Evaluation						
	Soil and groundwater	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-cultural	Decision type	Severity level	Likelihood	Risk level	ALARP tool	Acceptability	Outcome
Movement of vessels and Pyrenees Venture FPSO from known high introduced marine species risk areas					X	X		A	3 – Substantial	Unlikely	10	LCS GP	Tolerable	EPO 23
Source of risk														
The Pyrenees Facility relies on vessels to service routine operations, offtake cargo, and undertake IMMR activities. Vessels are potential vectors for the introduction of IMS to the Operational Area during the Petroleum Activity, and include: - Facility support vessels: typically sourced from Australian waters and generally considered to be low risk, these vessels are the most commonly used vessels in the Operational Area. - Offtake tankers typically from international waters and generally considered to be low risk, these tankers may visit the Operational Area approximately eight times per year, with offtake frequency declining as production rates decline; offtake operations may take up to 30 hours to complete. - FPSO sail away: during the implementation of the Petroleum Activity, the Pyrenees Venture FPSO may sail away to an international location for modifications, maintenance or repair. - Subsea support vessels or uncrewed surface vessels – may be sourced from Australia or overseas, depending on requirements and vessel availability. IMS may be introduced to the Operational Area from these activities through: - the discharge of ballast water - release of IMS propagules/fragments from biofouling. Potential IMS can be drawn into ballast tanks during on-boarding of ballast water as cargo is unloaded or to balance vessels under load. Offtake tankers use ballast water to maintain vessel stability. This ballast is discharged when loading crude oil from the Pyrenees Venture FPSO during offtake operations. The Pyrenees Venture FPSO may require ballast water to operate safely when detached from the DTM. Ballast water taken on within the Operational Area (i.e. prior to detachment) is considered unlikely to host IMS due to the offshore location and deep water (approximately 200 m water depth). When returning from beyond Australian waters, the Pyrenees Venture FPSO routinely undertakes ballast water exchanges to achieve low risk ballast water. Ballast water exchanges are not typically required by facility support or subsea vessels. All support and subsea vessels are required to have low risk ballast water on-board prior to being contracted to Woodside. All vessels are subject to some level of marine fouling. Organisms attach to the vessel hull, particularly in areas where organisms can find a good surface (e.g. seams, strainers and unpainted surfaces) or where turbulence is lowest (e.g. niches, sea chests). Biofouling organisms can become established in an area through the release of propagules (e.g. eggs or larvae), or by attaching to substrate after becoming detached from the host vessel. While the FPSO remains in position for extended periods, it may leave the Operational Area to avoid dangerous weather or sail away to undergo scheduled modifications, maintenance or repair. During the most recent sail away for maintenance, in Q2 2024, the FPSO was dry-docked and all seawater systems, hull areas, and niche environments were thoroughly inspected and cleaned. Antifouling coatings were reapplied, and no IMS were detected. The FPSO														

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

was retained in-water post-dry dock for less than seven days before departing Singapore – consistent with DPIRD advice that IMS settlement risk significantly increases beyond this period.

Consequence assessment

Non-indigenous marine species (NIMS) are species introduced beyond their natural biogeographic ranges that can survive, reproduce and establish populations. Not all NIMS introduced into an area will thrive or cause demonstrable impacts. Indeed, the majority of NIMS around the world are relatively benign; few have spread widely beyond sheltered ports and harbours. Only a subset of NIMS that become abundant and impact social/cultural, human health, economic and/or environmental values can be considered IMS. IMS have historically been introduced and translocated around Australia by a variety of human means, including biofouling and ballast water.

Species of concern are those that are:

- not native to the region
- likely to survive and establish in the region
- able to spread by human mediated or natural means.

Species of concern vary from one region to another depending on various environmental factors such as water temperature, depth, salinity, nutrient levels and habitat type. These factors dictate their survival and invasive capabilities. IMS are typically species that occur in shallow water, and hence are unlikely to survive in the deep offshore Operational Area (approx. 200 m depth). The Pyrenees Venture FPSO hull, the mooring and sections of risers near the sea surface are the only substrates considered suitable for establishment of potential IMS.

Introducing IMS into the local marine environment may alter the ecosystem, as IMS have characteristics that make them superior (in a survival and/or reproductive sense) to indigenous species. They may prey upon local species which had previously not been subject to this kind of predation, and therefore not have evolved protective measures against the attack. They may outcompete indigenous species for food, space or light, and can also interbreed with local species, creating hybrids such that the endemic species is lost.

IMS have also proven economically damaging to areas where they have been introduced and established. Such impacts include direct damage to assets (fouling of vessel hulls and infrastructure) and depletion of commercially harvested marine life (e.g. shellfish stocks). IMS have proven particularly difficult to eradicate from areas, once established. If the introduction is captured early, eradication may be effective but is likely to be expensive, disruptive and, depending on the method of eradication, harmful to other local marine life.

Despite the potential high consequence of the establishment of a marine pest within a high value environment as a result of introduction, unlike coastal or sheltered nearshore waters, the deep offshore open waters of the Operational Area are not conducive to the settlement and establishment of IMS. The Petroleum Activity is undertaken in an open ocean, offshore location away from shorelines and/or critical habitat, more than 14 NM from a shore and in waters approximately 200 m deep. The impacts of introducing a marine pest in this offshore location would have a lower consequence than introduction within a nearshore location, as the introduction of IMS and associated establishment is considered highly unlikely.

When examining the potential impacts from translocation of marine pests to the Pyrenees Facility itself, interactions with the facility and any support vessels (most likely Australian sourced) and tankers are limited, with time within the 500 m PSZ around the facility limited to support vessel transfers/bunkering. However, the risk of this occurring is considered manageable, given the ballast water and biofouling controls which are implemented for the Petroleum Activity.

In 2022 a trial of emerging eDNA technology was undertaken to enhance invasive marine species detection and management. A third-party eDNA monitoring survey was conducted around the Pyrenees Venture FPSO using 18S and CO1 metabarcoding assays (BMT, 2022). Two taxa of interest were flagged, including the dinoflagellate *Gymnodinium catenatum* and a possible identification of a non-native oyster, *Crassostrea virginica*. The former is a planktonic species with no risk of hull colonisation, and the latter had low-confidence sequence matches that also align with native species such as *Saccostrea glomerata*. No biofouling-associated IMS were identified. The detection of *G. catenatum* is likely the result of natural current-driven dispersal (e.g. Leeuwin Current), not FPSO-related activities.

During the Pyrenees Venture FPSO's recent dry dock in Singapore in Q2 2024 the FPSO was hauled out, cleaned of marine growth, a new AFC applied, and prior to sail back, inspected for IMS. No IMS were detected.

Summary of potential impacts to environmental value(s)

In support of Woodside's assessment of the impacts and risks of IMS introduction associated with the Petroleum Activity, risk and impact evaluations of the different aspects of potential marine pest translocation are undertaken. The absence of IMS detections immediately prior to sail back following the dry-dock confirms the controls being implemented reduce the risk to ALARP.

Woodside has presented the highest potential severity level as 2 (Measurable) and likelihood as Highly Unlikely resulting in an overall Tolerable risk following the implementation of identified controls.

Table 6-22: Assessment of the impacts and risks of IMS introduction associated with the Petroleum Activity

IMS introduction aspect	Credibility of introduction	Consequence of introduction	Likelihood
Transfer of IMS from infected vessel to Operational Area and establishment on the seafloor or subsea infrastructure.	Not credible The deep offshore open waters of the Operational Area, away from shorelines and/or critical habitat, more than 12 NM from a shore and in waters 320 to 849 m deep are not conducive to the settlement and establishment of IMS.		
Transfer of IMS from infected vessel to and subsequent establishment on the Pyrenees Venture FPSO.	Credible There is potential for the transfer of marine pests to occur.	If IMS were to establish this would potentially result in fouling of intakes (depending on the pest introduced) and would likely result in the quarantine of the Pyrenees Venture FPSO until eradication could occur (through cleaning and treatment of infected areas), which would be costly to undertake. Substantial (3) – reputation and brand Such introduction would be expected to have Substantial (3) impact to Woodside's reputation and brand, and close scrutiny of asset level operations or future proposals. Measurable (2)– environment Environmental consequence of introduction of IMS to the Pyrenees Venture FPSO is considered Measurable (2), localised and would relate to habitat directly on the Pyrenees Venture FPSO.	Unlikely (0.1) Interactions between the Pyrenees Venture FPSO and support vessels will be limited during the Petroleum Activity, with a 500 m PSZ being adhered to. Offtake tankers are considered to present a low IMS risk do not directly contact the Pyrenees Venture FPSO and are within the Operational Area for short periods of time (typically <36 hours). Spread of marine pests via ballast water or spawning in these open ocean environments is considered Unlikely (0.1).
Transfer of IMS to Pyrenees Venture FPSO while disconnected and returning to Operational Area from shipyard.	Credible There is potential for the transfer of marine pests to occur.	If IMS were to return on the FPSO and establish, this would potentially result in fouling of intakes (depending on the pest introduced), and likely result in the quarantine of the Pyrenees Venture FPSO until eradication could occur (through cleaning and treatment of infected areas). This would be costly to undertake.	Unlikely (0.1) Interactions between the Pyrenees Venture FPSO and support vessels will be limited during the Petroleum Activity, with a 500 m PSZ being adhered to. In addition, controls will be implemented (refer to ALARP discussion below) on return of the Pyrenees Venture FPSO from the shipyard to limit likelihood of IMS translocation.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

		Measurable (2) – environment Environmental consequence of introduction of IMS to the Pyrenees Venture FPSO is considered measurable (2), localised, and would relate to habitat directly on the Pyrenees Venture FPSO. Substantial (3) – reputation and brand Such introduction would be expected to have a substantial (3) impact to Woodside's reputation and brand, and close scrutiny of asset level operations or future proposals.	Spread of marine pests via ballast water or spawning in these open ocean environments is considered Unlikely (0.1).
Transfer of IMS from infected vessel to a subsequent establishment on Pyrenees Venture FPSO, then transfer of IMS to a secondary vessel from the Pyrenees Venture FPSO.	Not credible Risk is considered so remote that it is not credible for the purposes of the Petroleum Activity. The transfer of a marine pest from an infected activity vessel to the Pyrenees Venture FPSO was already considered highly unlikely, given the offshore open ocean environment. Furthermore, if this was to happen controls would be implemented to respond to the transfer, before many other vessels had opportunities to interact with the FPSO. For a marine pest to then establish into a mature spawning population on the Pyrenees Venture FPSO and then transfer to another support vessel is not considered credible (i.e. beyond the Woodside PetDW Risk Matrix). The Pyrenees Venture FPSO is in an offshore, open ocean, deep environment. Support vessels only spend short periods of time alongside the Pyrenees Venture FPSO (i.e. during backloading or bunkering activities). There is also no direct contact (i.e. they are not tied up alongside) during these activities. It's also noted that Woodside has been conducting marine vessel movements between the FPSO and WA ports (such as Dampier) for a long period of time, and no IMS has been		

	detected in these ports (Department of Fisheries, 2017).		
--	---	--	--

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
Legislation, codes and standards				
All vessels will manage their ballast water using one of the approved ballast water management options, as specified in the Australian Ballast Water Management Requirements.	F: Yes. CS: Minimal cost. Standard practice.	The use of an approved ballast water treatment system will reduce the likelihood of transfer of marine pests between vessels within the Operational Area. No change in consequence would occur.	Controls based on legislative requirements under the <i>Biosecurity Act 2015</i> – must be adopted.	Yes C 18.1
Internationally sourced vessels will manage their biosecurity risk associated with biofouling as specified in the Australian Biofouling Management Requirements.	F: Yes. CS: Minimal cost. Standard practice.	Reduces the likelihood of transfer of marine pests between vessels within the Operational Area. No change in consequence would occur.	Controls based on legislative requirements under the <i>Biosecurity Act</i> – must be adopted.	Yes C 18.2
Good practice				
Woodside's IMS risk assessment process will be applied to vessels and immersible equipment that enter the Operational Area, unless exempt (Section 7.4). Based on the outcomes of each IMS risk assessment, management options commensurate with the risk will be implemented to minimise the likelihood of IMS being introduced. Management options include IMS Inspection, clearing and treatment of internal systems depending on the IMS translocation risk identified.	F: Yes. CS: Minimal cost. Good practice implemented across all Woodside Operations.	Identifies potential risks and additional controls implemented accordingly. In doing so, the likelihood of transferring marine pests between FPSO and vessels within the Operational Area is reduced. No change in consequence would occur.	Benefits outweigh cost/sacrifice.	Yes C 18.3
Undertake diver-based monitoring of the Pyrenees Venture FPSO for IMS.	F: Potentially, diver-based surveys are technically feasible for the Pyrenees Venture FPSO but are not approved under the in-force Safety Case. CS: Significant. IMS inspections of in-water assets typically require vessel logistics and diver-based inspection teams to reliably detect IMS. This is a costly, time-consuming process	FPSO monitoring does not prevent the potential for translocation (i.e. only as a mitigation measure). Detection may facilitate subsequent development of options to manage IMS. Subsequent success may be limited due to structure complexity and hazardous environment.	Grossly disproportionate. Interactions between FPSO and support/ subsea vessels posing IMS translocation risk will be limited, and the vessels involved will have been managed through the implementation of Woodside's IMS risk assessment	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
	that would likely require facility simultaneous operational constraints, and invariably introduces a series of significant safety risks in a hazardous offshore environment. Monetary cost of IMS survey for Pyrenees Venture FPSO sized infrastructure would be comparable to safe diver campaign arrangements in the order of AUD\$200,000/day plus mob/demob costs. Costs of ROV to support survey are in the order of AUD\$150,000/day plus mob/demob costs (based on subsea ROV hire costs). Health and safety exposure includes those of personnel while conducting diver-based surveys – four days of two to three people (based on subsea ROV surveys of similar size), as well as offshore vessel and facility simultaneous operations hazards.		process (C 17.3 and Section 7.4). Consequently, any additional benefit gained through the implementation of this control is considered disproportionate given material execution safety risks, and controls already adopted.	
Pyrenees Facility hull in-water inspections undertaken in line with Lloyds Register and AMSA requirements, <three yearly basis.	F: Yes, however, this requirement is established for a different purpose (ensuring hull integrity) than to monitor for IMS. CS: Any assessment of presence of IMS from in-water inspections would incur cost.	The control is good practice for the purpose of hull integrity inspection. FPSO hull integrity inspections do not prevent the potential for translocation (i.e. only as a mitigation measure).	Grossly disproportionate. Interactions between FPSO and support/ subsea vessels posing IMS translocation risk will be limited, and the vessels involved will have been managed through the implementation of Woodside's IMS risk assessment process (C 17.3 and Section 7.4). Consequently, any additional benefit gained through the implementation of this control is considered disproportionate given controls already adopted.	No

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
Opportunistic routine Class Society 'underwater inspection in lieu of drydocking' survey to occur in line with ROV IMR activities (three yearly). Closed circuit television footage and high resolution photos provided to suitably qualified IMS inspector for review of potential IMS.	F: Yes. CS: Any assessment of presence of IMS from 'underwater inspection in lieu of drydocking' inspections would incur cost.	FPSO monitoring does not prevent the potential for translocation (i.e. only as a mitigation measure). Detection may facilitate subsequent development of options to manage IMS.	Grossly disproportionate. Interactions between FPSO and support/ subsea vessels posing IMS translocation risk will be limited, and the vessels involved will have been managed through the implementation of Woodside's IMS risk assessment process (C 17.3 and Section 7.4). Further, the recent dry dock confirmed through direct visual inspection that there was no presence of IMS. This outcome supports the conclusion that Woodside' preventative control measures regime is effective in mitigating IMS translocation risk. Consequently, any additional benefit gained through the implementation of this control is considered disproportionate given controls already adopted.	No
Woodside to provide to a suitably qualified IMS inspector a review most recent ROV footage of subsea equipment for evaluation for IMS.	F: Yes. CS: Any assessment of presence of IMS subsea equipment would incur cost.	FPSO monitoring does not prevent the potential for translocation (i.e. only as a mitigation measure). Detection may facilitate subsequent development of options to manage IMS.	Grossly disproportionate. Interactions between FPSO and support/ subsea vessels posing IMS translocation risk to subsea equipment will be limited, and the vessels involved will have been managed through implementation of Woodside's IMS risk assessment process (C 17.3 and Section 7.4). Further, the recent dry dock confirmed through direct visual	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
			inspection that there was no presence of IMS. This outcome supports the conclusion that Woodside's preventative control measures regime is effective in mitigating IMS translocation risk. Consequently, any additional benefit gained through the implementation of this control is considered disproportionate given other controls already adopted.	
Use of genetic DNA sequencing for the detection of IMS associated with FPSO operations.	F: Yes. Approach to monitoring is feasible. CS: Potential for significant cost of studies and monitoring.	The implementation of this control during Revision 17 of the Pyrenees Facility Operations EP (2022) was undertaken as a feasibility study exploring the suitability of eDNA as a monitoring tool from an FPSO while in-situ. The conclusion of this study was that the method does not yet provide sound single-line of evidence for detection of IMS (BMT, 2022). Due to limitations with the reference sequence database as well as the current inability to confirm with 100% confidence the presence/absence of certain closely related taxa, eDNA is most useful and reliable as an add on during traditional surveillance methods at this time. The future applicability of eDNA for IMS detection on FPSOs is considered disproportionate and no further studies area proposed. Monitoring does not prevent the potential for translocation (i.e. only	Grossly disproportionate. Interactions between FPSO and support/subsea vessels posing IMS translocation risk will be limited, and the vessels involved will have been managed through Woodside' IMS risk assessment process (C 17.3 and Section 7.4). Consequently, any additional benefit gained through the implementation of this control is considered disproportionate given controls already adopted.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
		as a mitigation measure). Detection may facilitate subsequent development of options to manage IMS.		
Professional judgement – Eliminate				
Do not use vessels.	F: No. No alternative to the use of vessels during the Petroleum Activity was identified. Given that vessels must be used to undertake the Petroleum Activity. There is no feasible means to eliminate the source of risk. CS: Not assessed, control not feasible.	Not assessed, control not feasible.	Not assessed, control not feasible.	No
Professional judgement – Substitute				
Source vessels based in Australia only.	F: Yes. Support vessels are routinely sourced from Australia. However, depending on the nature of subsea IMMR activities, there may not be a suitable subsea support vessel within Australian waters. CS: Potential for significant cost and schedule impacts.	Reduction in the likelihood that a vessel will host IMS.	Disproportionate. The cost/sacrifice is grossly disproportionate to the benefit gained.	No
IMS Inspection of all vessels.	F: Yes. Approach to inspect vessels is feasible. CS: Significant cost and schedule impacts. Thorough inspections require vessels to be removed from the sea (e.g. slipped or dry docked) and examined by an IMS expert. This process incurs significant financial and schedule sacrifices. Timely vessel based support is integral to the safe and efficient operation of the Pyrenees Venture FPSO and subsea infrastructure.	Reduction in the likelihood that a vessel will host IMS.	Disproportionate. The cost/sacrifice is grossly disproportionate to the benefit gained.	No
Inspection of Pyrenees Venture FPSO by IMS Inspector prior to arrival in Australian waters.	F: Yes. Approach to inspect vessels is feasible.	Reduction in the likelihood that the FPSO would host IMS on return to the	Although the inspection of all vessels associated with Pyrenees operations is	Yes C 18.4

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Demonstration of ALARP				
Control considered	Control feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
	CS: Significant cost and schedule impacts. Thorough inspections require vessels to be removed from the sea (e.g. slipped or dry docked) and examined by an IMS Inspector. This process incurs significant financial and schedule sacrifices.	Operational Area from international sail away.	considered disproportionate (rejected control above), considering the implementation of Woodside's IMS risk assessment process (C 17.3 and Section 7.4), the inspection of the Pyrenees Venture FPSO itself by an IMS Inspector is considered appropriate given the added level of confidence it provides.	
Professional judgement – Engineered solution				
None identified.				
ALARP statement: A suite of preventative controls has been adopted, targeting the most credible IMS introduction pathways – biofouling and ballast water. These include Woodside's IMS risk assessment process, ballast water management compliant with Australian requirements, and biofouling management consistent with national guidelines and international conventions. These controls are applied to all vessel types interacting with the Pyrenees Venture FPSO, including international vessels and offtake tankers. Woodside completed dry dock works on the Pyrenees Venture FPSO in Q2 2024, which included hull cleaning and recoating, and management of niche areas and ballast tanks. Comprehensive dry dock inspections conducted found no evidence of IMS immediately prior to sail back. Such direct visual inspections provide a definitive and highly reliable assessment that supersedes inconclusive outcomes of eDNA and 'underwater inspection in lieu of drydocking'/ROV survey methods. Given the potential for these methods to generate indicative IMS findings that could be misleading or false positives these methods are not considered to be necessary or appropriate as a standard requirement going forward. The risk assessment has determined that, given the adopted controls, introduction of IMS represent a tolerable risk. The adopted controls are considered good oil-field practice/industry best practice. The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of invasive marine species to an acceptable level.				

Demonstration of acceptability
Acceptability statement: The risk assessment has determined that, given the adopted controls, introduction of IMS represents a tolerable risk to marine communities within the Operational Area. Further opportunities to reduce the impacts and risks have been investigated above. The adopted controls are considered good oil-field practice/industry best practice. The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of IMS to an acceptable level and demonstrate that the EPOs are met.

EPOs, EPSs and MC			
<i>Environmental performance outcomes</i>	<i>Controls</i>	<i>Environmental performance standards</i>	<i>Measurement criteria</i>
EPO 23 No introduction and establishment of invasive marine species into the Operational Area.	C 18.1 All vessels will manage their ballast water using one of the approved ballast water management options, as specified in the Australian Ballast Water Management Requirements.	PS 18.1 Compliance with Australian Ballast Water Management Requirements (as defined under the <i>Biosecurity Act</i>) (aligned with the <i>International Convention for the Control and Management of Ships' Ballast Water and Sediments</i>) to prevent the introduction of IMS.	MC 18.1 Ballast water exchange records maintained by vessels which verifies compliance against Ballast Water Management requirements.
	C 18.2 Internationally sourced vessels will manage their biosecurity risk associated with biofouling as specified in the Australian Biofouling Management Requirements.	PS 18.2 Compliance with Australian Biofouling Management Requirements.	MC 18.2 Records of implementation of biofouling management measures and pre-arrival reporting.
	C 18.3 Woodside's IMS risk assessment process will be applied to vessels and immersible equipment that enter the Operational Area, unless exempt (Section 7.4). Based on the outcomes of each IMS risk assessment, management options commensurate with the risk will be implemented to minimise the likelihood of IMS being introduced.	PS 18.3.1 Prior to entering the Operational Area, vessels and relevant immersible equipment are determined to be low risk ⁷² of introducing IMS of concern.	MC 18.3.1 Records of IMS risk assessments maintained for all vessels and relevant immersible equipment entering the Operational Area to undertake the Petroleum Activity.
		PS 18.3.2 IMS risk assessments undertaken by an authorised Environment Advisor who has completed relevant Woodside IMS training or by qualified and experienced IMS inspector.	MC 18.3.2 Records of Environment Advisor training and IMS inspector qualifications (as relevant).
	C 18.4 Inspection of Pyrenees Venture FPSO by IMS Inspector prior to arrival in Australian waters.	PS 18.4 IMS assessments undertaken by an authorised IMS Inspector.	MC 18.4 Records of IMS inspector assessment.

⁷² Low risk of introducing IMS of concerns is defined as either no additional management measures required or, management measures have been applied to reduce the risk.

6.9 Recovery plan and threat abatement plan assessment

This section describes the assessment that Woodside has undertaken to demonstrate that the Petroleum Activity is not inconsistent with any relevant recovery plans or threat abatement plans. For the purposes of this assessment, the relevant Part 13 statutory instruments (recovery plans and threat abatement plans) are:

- Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017)
- Recovery Plan for the White Shark (*Carcharodon carcharias*) (Commonwealth of Australia, 2013a)
- Recovery Plan for the Grey Nurse Shark (*Carcharias taurus*) 2014 (Commonwealth of Australia, 2014)
- Sawfishes and River Sharks Multispecies Recovery Plan (Commonwealth of Australia, 2015b)
- Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans 2018 (Commonwealth of Australia, 2018)
- Conservation Management Plan for the Blue Whale 2015–2025 (Commonwealth of Australia, 2015a)
- National Recovery Plan for the Southern Right Whale (DCCEEW, 2024a)
- Recovery Plan for the Australian Sea Lion (Commonwealth of Australia, 2013b)
- National Recovery Plan for albatrosses and petrels (Commonwealth of Australia, 2022)
- Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015c)
- Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2020b)
- National Recovery Plan for the Australian Fairy Tern (Commonwealth of Australia, 2020a)
- National Recovery Plan for the Christmas Island Frigatebird (Commonwealth of Australia, 2004).

Table 6-23 lists the objectives and (where relevant) the action areas of these plans, and also describes whether these objectives/action areas are applicable to government, the titleholder, and/or the Petroleum Activity. For those objectives/action areas applicable to the Petroleum Activity, the relevant actions of each plan have been identified, and an evaluation has been conducted as to whether impacts and risks resulting from the Petroleum Activity are not inconsistent with that action. The results of this assessment against relevant actions are presented in

Table 6-24 to Table 6-29.

Table 6-23: Identification of applicability of recovery plan and threat abatement plan objectives and action areas

EPBC Act Part 13 statutory instrument	Applicable to:		
	Government	Titleholder	Petroleum Activity
Marine Turtle Recovery Plan			
Long-term recovery objective: Minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so they can be removed from the EPBC Act threatened species list	Y	Y	Y
Interim recovery objectives			
Current levels of legal and management protection for marine turtle species are maintained or improved, both domestically and throughout the migratory range of Australia's marine turtles	Y		
The management of marine turtles is supported	Y		
Anthropogenic threats are demonstrably minimised	Y	Y	Y
Trends in nesting numbers at index beaches and population demographics at important foraging grounds are described	Y	Y	
Action areas			
A. Assessing and addressing threats			
A1. Maintain and improve efficacy of legal and management protection	Y		
A2. Adaptively manage turtle stocks to reduce risk and build resilience to climate change and variability	Y		
A3. Reduce the impacts of marine debris	Y	Y	Y
A4. Minimise chemical and terrestrial discharge	Y	Y	Y
A5. Address international take within and outside Australia's jurisdiction	Y		
A6. Reduce impacts from terrestrial predation	Y		
A7. Reduce international and domestic fisheries bycatch	Y		
A8. Minimise light pollution	Y	Y	Y
A9. Address the impacts of coastal development/infrastructure and dredging and trawling	Y	Y	
A10. Maintain and improve sustainable Indigenous management of marine turtles	Y		
B. Enabling and measuring recovery			
B1. Determine trends in index beaches	Y	Y	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPBC Act Part 13 statutory instrument	Applicable to:		
	Government	Titleholder	Petroleum Activity
B2. Understand population demographics at key foraging grounds	Y		
B3. Address information gaps to better facilitate the recovery of marine turtle stocks	Y	Y	Y
Blue Whale Conservation Management Plan			
Long-term recovery objective: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list	Y	Y	Y
Interim recovery objectives			
The conservation status of blue whale populations is assessed using efficient and robust methodology	Y		
The spatial and temporal distribution, identification of BIAs, and population structure of blue whales in Australian waters is described	Y	Y	Y
Current levels of legal and management protection for blue whales are maintained or improved and an appropriate adaptive management regime is in place	Y		
Anthropogenic threats are demonstrably minimised	Y	Y	Y
Action areas			
A. Assessing and addressing threats			
A.1: Maintain and improve existing legal and management protection	Y		
A.2: Assess and address anthropogenic noise	Y	Y	Y
A.3: Understand impacts of climate variability and change	Y		
A.4: Minimise vessel collisions	Y	Y	Y
B. Enabling and measuring recovery			
B.1: Measure and monitor population recovery	Y		
B.2: Investigate population structure	Y		
B.3: Describe spatial and temporal distribution and define biologically important habitat	Y	Y	Y

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPBC Act Part 13 statutory instrument	Applicable to:		
	Government	Titleholder	Petroleum Activity
Southern Right Whale Recovery Plan			
Long-term vision: Increase population to a level that the conservation status has improved and the species no longer qualifies for listing as threatened under any of the EPBC Act listing criteria	Y	Y	Y
Interim recovery objectives			
Current levels of Commonwealth and State legislative and management protection for southern right whales are implemented, maintained, or improved, so threats continue to be managed and reduced over the life of the plan	Y		
Anthropogenic threats are managed consistent with ecologically sustainable principles to facilitate recovery of southern right whales	Y	Y	Y
Population dynamics, including demographics, distribution, residency, and coastal movement across the species range are monitored and quantified using robust, standardised, best-practice methodology to assess population recovery	Y		
The population structure in Australian waters is clearly characterised to evaluate the degree to which the western and eastern populations are separate populations and inform the degree of connectivity with other southern right whale populations	Y		
Capability of First Nation Australians, research, citizen science, and general community groups is improved to assist in addressing recovery actions of southern right whales in Australia	Y		
Action areas			
Assess and address key threats			
A1: Maintain, implement and improve efficacy of current legislative and management protection for southern right whales	Y		
A2: Address habitat degradation impacts from coastal and offshore marine infrastructure developments within the species' range	Y	Y	Y
A3: Understand impacts of climate variability and anthropogenic climate change on the species biology and population recovery	Y	Y	Y
A4: Manage and mitigate the threat of entanglements from commercial active or discarded fishing gear throughout the species' range in Australian waters	Y		
A5: Assess, manage and mitigate impacts from anthropogenic underwater noise	Y	Y	Y
A6: Manage, minimise and mitigate the threat of vessel strike	Y	Y	Y

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPBC Act Part 13 statutory instrument	Applicable to:		
	Government	Titleholder	Petroleum Activity
Measure recovery			
B1: Measure and monitor population demographic and recovery	Y		
B2: Characterise population structure	Y		
B3: Determine migratory paths and offshore distribution	Y		
B4: Improve capability of First Nation Australians, research, citizen science, and general community groups to assist management of southern right whales	Y		
Grey Nurse Shark Recovery Plan			
Overarching objective			
To assist the recovery of the grey nurse shark in the wild, throughout its range in Australian waters, with a view to: - improving the population status, leading to future removal of the grey nurse shark from the threatened species list of the EPBC Act - ensuring that anthropogenic activities do not hinder the recovery of the grey nurse shark in the near future, or impact on the conservation status of the species in the future	Y	Y	Y
Specific objectives			
Develop and apply quantitative monitoring of the population status (distribution and abundance) and potential recovery of the grey nurse shark in Australian waters	Y		
Quantify and reduce the impact of commercial fishing on the grey nurse shark through incidental (accidental and/or illegal) take, throughout its range	Y		
Quantify and reduce the impact of recreational fishing on the grey nurse shark through incidental (accidental and/or illegal) take, throughout its range	Y		
Where practicable, minimise the impact of shark control activities on the grey nurse shark	Y		
Investigate and manage the impact of ecotourism on the grey nurse shark	Y		
Manage the impact of aquarium collection on the grey nurse shark	Y		
Improve understanding of the threat of pollution and disease to the grey nurse shark	Y	Y	Y
Continue to identify and protect habitat critical to the survival of the grey nurse shark and reduce the impact of threatening processes within these areas	Y	Y	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPBC Act Part 13 statutory instrument	Applicable to:		
	Government	Titleholder	Petroleum Activity
Continue to develop and implement research programs to support the conservation of the grey nurse shark	Y	Y	
Promote community education and awareness in relation to grey nurse shark conservation and management	Y		
Sawfish and River Sharks Recovery Plan			
Primary objective			
To assist the recovery of sawfish and river sharks in Australian waters with a view to: - improving the population status leading to the removal of the sawfish and river shark species from the threatened species list of the EPBC Act - ensuring that anthropogenic activities do not hinder recovery in the near future, or impact on the conservation status of the species in the future	Y	Y	Y
Specific objectives			
Reduce and, where possible, eliminate adverse impacts of commercial fishing on sawfish and river shark species	Y		
Reduce and, where possible, eliminate adverse impacts of recreational fishing on sawfish and river shark species	Y		
Reduce and, where possible, eliminate adverse impacts of Indigenous fishing on sawfish and river shark species	Y		
Reduce and, where possible, eliminate the impact of illegal, unregulated and unreported fishing on sawfish and river shark species	Y		
Reduce and, where possible, eliminate adverse impacts of habitat degradation and modification on sawfish and river shark species	Y	Y	Y
Reduce and, where possible, eliminate any adverse impacts of marine debris on sawfish and river shark species noting the linkages with the Threat Abatement Plan for the Impact of Marine Debris on Vertebrate Marine Life	Y	Y	Y
Reduce and, where possible, eliminate any adverse impacts of collection for public aquaria on sawfish and river shark species	Y		
Improve the information base to allow the development of a quantitative framework to assess the recovery of, and inform management options for, sawfish and river shark species	Y		
Develop research programs to assist conservation of sawfish and river shark species	Y	Y	
Improve community understanding and awareness in relation to sawfish and river shark conservation and management	Y		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

EPBC Act Part 13 statutory instrument	Applicable to:		
	Government	Titleholder	Petroleum Activity
Marine Debris Threat Abatement Plan			
Objectives			
Contribute to long-term prevention of the incidence of marine debris	Y	Y	
Understand the scale of impacts from marine plastic and microplastic on key species, ecological communities and locations	Y	Y	Y
Remove existing marine debris	Y		
Monitor the quantities, origins, types and hazardous chemical contaminants of marine debris, and assess the effectiveness of management arrangements for reducing marine debris	Y		
Increase public understanding of the causes and impacts of harmful marine debris, including microplastic and hazardous chemical contaminants, to bring about behaviour change	Y		

Table 6-24: Assessment against relevant actions of the Marine Turtle Recovery Plan

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	EPOs, controls and EPSs
Marine Turtle Recovery Plan	Action Area A3: Reduce the impacts from marine debris	Action: Support the implementation of the Marine Debris Threat Abatement Plan <u>Priority actions at stock level:</u> Green turtle, NWS stock – Understand the threat posed to this stock by marine debris Loggerhead turtle, WA stock – Determine the extent to which marine debris is impacting loggerhead turtles Flatback turtle, Pilbara stock – No relevant actions	Refer Section 6.8.9 Not inconsistent assessment: The assessment of the accidental release of solid hazardous and non-hazardous wastes has considered the potential risks to marine turtles. Controls have been implemented to reduce the likelihood of accidental release of solid wastes for the duration of the Petroleum Activity.	EPO 20 C 17.1 to C 17.4 PS 17.1 to PS 17.4

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	EPOs, controls and EPSs
	Action Area A8: Minimise light pollution	Action: Artificial light within or adjacent to habitat critical to the survival of marine turtles will be managed such that marine turtles are not displaced from these habitats <u>Priority actions at stock level:</u> Green turtle, NWS stock – As above Loggerhead turtle, WA stock – No relevant actions Flatback turtle, Pilbara stock – Manage artificial light from onshore and offshore sources to ensure biologically important behaviours of nesting adults and emerging/dispersing hatchlings can continue	Refer Section 6.7.3 Not inconsistent assessment: The assessment of light emissions has considered the potential impacts to marine turtles. Internesting, mating, foraging or migrating turtles are not impacted by light from offshore vessels. Based on the frequency and nature of IMMR activities, the impacts to adult turtles moving through the Operational Area from vessel lighting are expected to be localised and temporary with no lasting effect.	EPO 4, 5 C 4.1 to C 4.3 PS 4.1 to PS 4.3
	Action Area B1: Determine trends at index beaches	Action: Maintain or establish long-term monitoring programs at index beaches to collect standardised data critical for determining stock trends, including data on hatchling production <u>Priority actions at stock level:</u> Green turtle, NWS stock – Continue long-term monitoring of index beaches Loggerhead turtle, WA stock – Continue long-term monitoring of nesting and foraging populations Flatback turtle, Pilbara stock – No relevant actions	Not inconsistent assessment: Woodside contributes to Action Area B1 via its support of the Ningaloo Turtle Program.	N/A
	Action Area B3: Address information gaps to better facilitate the recovery of marine turtle stocks	Action: Understand the impacts of anthropogenic noise on marine turtle behaviour and biology <u>Priority actions at stock level:</u> Green turtle, NWS stock – Given this is a relatively accessible stock that is likely to be exposed to anthropogenic noise; investigate the impacts of anthropogenic noise on turtle behaviour and biology and extrapolate findings from the NWS stock to other stocks Loggerhead turtle, WA stock – No relevant actions Flatback turtle, Pilbara stock – No relevant actions	Refer Sections 6.7.4 Not inconsistent assessment: The assessment of acoustic emissions has considered the potential impacts to marine turtles. IMMR related noise is not expected to result in behavioural response, injury or mortality of individuals, or any other lasting effect.	EPO 6, 7 C 5.1 to C 5.3 PS 5.1 to PS 5.3

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	EPOs, controls and EPSs
Assessment summary The Marine Turtle Recovery Plan has been considered during the assessment of impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan.				

Table 6-25: Assessment against relevant actions of the Blue Whale Conservation Management Plan

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	EPOs, controls and EPSs
Blue Whale Conservation Management Plan	Action Area A.2: Assess and address anthropogenic noise	Action 2: Assess the effect of anthropogenic noise on blue whale behaviour Action 3: Anthropogenic noise in BIAs will be managed such that any blue whale continues to use the area without injury and is not displaced from a foraging area	Refer Sections 6.7.4 Not inconsistent assessment: The assessment of acoustic emissions has considered the potential impacts to pygmy blue whales. Acoustic emissions from project vessels will not cause injury to any pygmy blue whale. There are no known or possible foraging areas for pygmy blue whales within or adjacent to the Operational Area. If the Petroleum Activity within the Operational Area overlaps with an individual northbound or southbound migration, they may deviate slightly from the migratory route, but will continue on their migration.	EPO 6, 7 C 5.1 to C 5.3 PS 5.1 to PS 5.3
	Action Area A.4: Minimise vessel collisions	Action 3: Ensure the risk of vessel strikes on blue whales is considered when assessing actions that increase vessel traffic in areas where blue whales occur and, if required, appropriate mitigation measures are implemented	Refer Section 6.8.10 Not inconsistent assessment: The assessment of vessel collision with marine fauna has considered the potential risks to pygmy blue whales. If the Petroleum Activity within the Operational Area overlaps with an individual northbound or southbound migration, they may deviate slightly from the migratory route, but will continue on their migration. Vessel collisions with pygmy blue whales are highly unlikely to occur, given the low operating speed of support vessels.	EPO 22 C 5.1 PS 5.1

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	EPOs, controls and EPSs
	Action Area B.3: Describe spatial and temporal distribution and define biologically important habitat	Action 2: Identify migratory pathways between breeding and feeding grounds Action 3: Assess timing and residency within BIAs	Not inconsistent assessment: Woodside contributes to Action Area B.3 via its support of targeted research initiatives (e.g. satellite tracking of pygmy blue whale migratory movements).	N/A
Assessment summary The Blue Whale Conservation Management Plan has been considered during the assessment of impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan.				

Table 6-26: Assessment against relevant actions of the Grey Nurse Shark Recovery Plan

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	EPOs, controls and EPSs
Grey Nurse Shark Recovery Plan	Objective 7: Improve understanding of the threat of pollution and disease to the grey nurse shark	Action 7.1: Review and assess the potential threat of introduced species, pathogens and pollutants	Refer Section 6.8.1 Not inconsistent assessment: This EP includes an assessment of the impacts from accidental release of solid wastes as well as planned discharges of drilling waste on marine species.	N/A
			Not inconsistent assessment: The assessment of accidental release of chemicals / hydrocarbons has considered the potential risks to grey nurse sharks. Spill risk strategies and response program include management measures, as identified and required.	Refer Section 6.8 Detailed oil spill preparedness and response EPOs, EPSs and MC for the Petroleum Activity are presented in Appendix H
Assessment summary The Grey Nurse Shark Recovery Plan has been considered during the assessment of impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan.				

Table 6-27: Assessment against relevant actions of the Southern Right Whale Recovery Plan

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	EPOs, controls and EPSSs
National Recovery Plan for the Southern Right Whale	Action Area A2: Address habitat degradation impacts from coastal and offshore marine infrastructure developments within the species' range	Action 1: Coastal and offshore development actions are assessed according to principles of ecological sustainable development to ensure the risk of injury, auditory impairment and/or disturbance to southern right whales is maintained Action 3: Current information on species' occurrence, particularly in habitat critical, BIAs and historic high use areas, are used to inform planning, assessment, and decision-making on marine infrastructure development actions	Not inconsistent assessment: This EP assesses the potential impacts of the petroleum activity do not result in the risk of injury, auditory impairment and/or disturbance to southern right whales, particularly within the habitat critical and BIAs that are located 18 km from the Operational Areas.	N/A
	Action Area A3: Understand impacts of climate variability and anthropogenic climate change on the species biology and population recovery	Action 1: Continue to meet Australia's international commitments to address causes of climate change, including greenhouse gas emissions	Refer Section 6.7.5 Not inconsistent assessment: This Petroleum Activity contributes to Australia meeting international commitments to address causes of climate change, including greenhouse gas emissions, primarily via compliance with Marine Order 97, the NGER Scheme and <i>National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015</i>.	EPO 8, EPO 9 C 6.2, C 6.3 PS 6.2, PS 6.3

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	EPOs, controls and EPSs
	Action Area A5: Assess, manage, and mitigate impacts from anthropogenic underwater noise	Action 2: Actions within and adjacent to southern right whale BIAs and habitat critical should demonstrate that it does not prevent any southern right whale from utilising the area or cause auditory impairment Action 3: Actions within and adjacent to southern right whale BIAs and habitat critical should demonstrate that the risk of behavioural disturbance is minimised Action 4: Ensure environmental assessments associated with underwater noise generating activities include consideration of national policy (e.g. EPBC Act Policy Statement 2.1) and guidelines related to managing anthropogenic underwater noise and implement appropriate mitigation measures to reduce risks to southern right whales to the lowest possible level Action 5: Quantify risks of anthropogenic underwater noise to southern right whales, including studies aimed to measure physiological effects, behavioural disturbance, and changes to acoustic communication (e.g. masking of vocalisations) to whales	Not inconsistent assessment: The assessment of acoustic emissions has considered the potential impacts to southern right whales. The nearest BIAs and habitat critical for the southern right whale being 18 km from the Operational Areas therefore it is not expected that noise from the Petroleum Activity will impact the southern right whales.	N/A
	Action Area A6: Manage, minimise and mitigate the threat of vessel strike	Action 1: Assess risk of vessel strike to southern right whales in BIAs Action 3: Ensure environmental impact assessments and associated plans consider and quantify the risk of vessel strike and associated potential cumulative risks in BIAs and habitat critical	Not inconsistent assessment: The assessment of vessel collision with marine fauna has considered the potential risks to southern right whales. The nearest BIAs and habitat critical for the southern right whale being 18 km from the Operational Areas therefore it is not expected that there is a risk of vessel strike.	N/A
Assessment summary The National Recovery Plan for the Southern Right Whale has been considered during the assessment of impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan.				

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 6-28: Assessment against relevant actions of the Sawfish and River Shark Recovery Plan

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	EPOs, controls and EPSs
Sawfish and River Shark Recovery Plan	Objective 5: Reduce and, where possible, eliminate adverse impacts of habitat degradation and modification on sawfish and river shark species	Action 5c: Identify risks to important sawfish and river shark habitat and measures needed to reduce those risks	Refer Section 6.8 Not inconsistent assessment: The assessment of accidental release of chemicals / hydrocarbons has considered the potential risks to sawfish and river shark. Spill risk strategies and response program include management measures, as identified and required.	Refer Section 6.8 Detailed oil spill preparedness and response EPOs, EPSs and MC for the Petroleum Activity are presented in Appendix H
	Objective 6: Reduce and, where possible, eliminate any adverse impacts of marine debris on sawfish and river shark species noting the linkages with the Threat Abatement Plan for the Impact of Marine Debris on Vertebrate Marine Life	Action 6a: Assess the impacts of marine debris including ghost nets, fishing gear and plastics on sawfish and river shark species	Not inconsistent assessment: The assessment of the accidental release of solid hazardous and non-hazardous wastes has considered the potential risks to sawfish. Controls have been implemented to reduce the likelihood of accidental release of solid wastes for the duration of the Petroleum Activity.	N/A
Assessment summary The Sawfish and River Shark Recovery Plan has been considered during the assessment of impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan.				

Table 6-29: Assessment against relevant actions of the Marine Debris Threat Abatement Plan

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	EPOs, controls and EPSS
Marine Debris Threat Abatement Plan	Objective 2: Understand the scale of marine plastic and microplastic impact on key species, ecological communities and locations	Action 2.04: Build understanding related to plastic and microplastic pollution	Not inconsistent assessment: The assessment of the accidental release of solid hazardous and non-hazardous wastes has considered the potential risks to the marine environment. Controls have been implemented to reduce the likelihood of accidental release of solid wastes for the duration of the Petroleum Activity.	N/A
Assessment summary The Marine Debris Threat Abatement Plan has been considered during the assessment of impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan.				

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

6.10 Cultural features and heritage values assessment

As described in Section 4, the identification of cultural values associated with cultural heritage as well as the social, economic and cultural features important to First Nations people is integral to understanding the environment and any potential impacts and risks to the environment.

In line with Woodside's First Nations Communities Policy, Woodside seeks to avoid damage or disturbance to cultural heritage (including intangible heritage) and, if avoidance is not possible, minimise and mitigate the impacts, in consultation with First Nations communities and Traditional Custodians. Mitigation can include any measure or control aimed at ensuring the viability of the intangible cultural heritage and its intergenerational transmission. This can include reducing impacts and risks to environmental features that are associated with intangible cultural heritage (UNESCO, 2003; ICOMOS, 2013).

It is important to note that not all topics raised by First Nations groups/individuals through consultation are considered values for the purpose of the cultural features and heritage values impact assessment below. A number of topics were raised as a general interest in environmental management and ecosystem health, where the group/individual was seeking further information about potential impacts and risks from the Petroleum Activity on the receptor. As these interests relate to the maintenance of the natural environment, these are adequately addressed through impact and risk assessments described in Sections 6.6, 6.7 and 6.8 respectively, and are not further assessed in this section.

Aspect	Cultural features and heritage values			
Description of source of impact/risk	The physical presence of the FPSO and vessels and associated movements in the Operational Area, as well as physical presence of subsea infrastructure, have the potential to impact or be a risk to cultural features and heritage values. The Pyrenees Venture FPSO and subsea infrastructure has been in operation since 2008 and has been marked on nautical charts since that time. Inspection, monitoring, maintenance and repair activities may also be conducted within the Operational Area. The Petroleum Activity includes production from a series of subsea wells. The worst-case credible hydrocarbon spill scenario involves a long-term (69-day) uncontrolled subsea release of 115,600 m³ of Pyrenees crude⁷³ and forms the basis of the EMBA.			
Receptor sensitivity	Cultural features and heritage values: High value Marine mammals: High value species Marine reptiles: High value species Fish: High value species			
Planned activities	The potential environmental impact to species that have a cultural feature or heritage value have been summarised below to provide the context of a potential impact significance level to those species to understand any cumulative impact on the cultural feature or heritage value.			
	Aspect	Impact significance level		
	Environmental impact assessment to marine species	Marine mammals	Marine reptiles	Fish
	6.7.3 Routine light emissions	N/A	Minor (1)	N/A
	6.7.4 Routine acoustic emissions	Minor (1)	Minor (1)	Minor (1)
	6.7.6 Routine and non-routine discharges: produced water	Minor (1)	Minor (1)	Minor (1)

⁷³ Existing modelling was undertaken in 2022 for a release of 156,774 m³ of Stickle crude at the Stickle 4H-1 well. Given that the available modelling is 41,174 m³ larger than then spill risk for this activity and is similar distance to the nearest shoreline, it is deemed representative and additional modelling for these areas was therefore not required.

Aspect	Cultural features and heritage values			
Unplanned activities	The potential environmental risks to species considered to have cultural value to Traditional Owners have been summarised below and attributed a risk rating to understand cumulative impacts on them as a cultural feature or heritage value.			
	Aspect	Risk rating		
	Environmental risk assessment to marine species	Marine mammals	Marine reptiles	Fish
	6.8.2 Unplanned hydrocarbon release: loss of well containment	30	30	30
	6.8.4 Unplanned hydrocarbon release: subsea infrastructure	3	3	3
	6.8.5 Unplanned hydrocarbon release: offtake operations	3	3	3
	6.8.3 Unplanned hydrocarbon release: loss of containment of bulk storage (crude)	9	9	9
Impact and risk assessment	The Petroleum Activity has the potential to impact cultural features and heritage values through the following ways: <u>Intangible Cultural Heritage</u> • Songlines: Songlines can become lost, fragmented, or broken when there is a loss of Country or forced removal from Country (Neale & Kelly, 2020:30). Physical sites that have been identified as comprising a component of a songline are important to protect to prevent the fragmenting or breaking apart of songlines and loss of sacred cultural knowledge. It is noted that oil and gas infrastructure exists in many areas of the North West Shelf, and that songlines are still acknowledged and recognised. It is inferred that if there were to be any impacts to surviving songlines these would be significantly more likely to be described as qualitative (i.e. 'weaken' a songline) rather than binary or absolute (i.e. destroy a songline). • Creation/Dreaming sites; sacred sites; ancestral beings: Activities that physically alter landscape features may be assumed to potentially impact values of Creation/Dreaming sites, sacred sites or ancestral beings. • Cultural obligations to care for Country: Environmental impacts may be assumed to impact rights and obligations to care for Sea Country. Exclusion of Traditional Custodians from Sea Country (e.g. by restricting access) or decision-making processes (e.g. by not conducting ongoing consultation) are other potential sources of impact. • Knowledge of Country/customary Law and transfer of knowledge: Direct impact to communities practicing these skills will inherently occur when relevant aspects of the environment disappear, are displaced or suffer a reduction in population. Therefore, the transmission of these skills is expected to be impacted where there are impacts at the species/population level. Limitations on access to sites or disruption/relocation of First Nations communities may have implications for the preservation of First Nations knowledge. • Connection to Country: Where people are displaced or disrupted (e.g. during colonisation) or where there is a loss of technical skills or environmental knowledge this may damage connection to Country (McDonald & Phillips, 2021). • Access to Country: Impacts to access to Country may be classified as temporary (e.g. where exclusion zones exist around activities for safety reasons) or permanent (e.g. where infrastructure obstructs access or navigation). Impacts to access to Country can only occur in areas that were traditionally accessed by Traditional Custodians. As described in Section 4.9 this is anticipated to be focussed on areas adjacent to the coast. • Restrictions on Access to Country: Access to the Operational Area has not been identified as a cultural issue; however, some areas within the EMBA may not be culturally appropriate to access. Impacts to this value may occur where spill response access areas that are not appropriate, or in ways that are not consistent with traditional Law. • Kinship systems and totemic species: It is assumed that marine species may have kinship/totemic relationships to Traditional Custodians, but it is understood that these relationships do not prohibit people outside of that "skin group" from hunting or eating that same species (Juluwarlu, 2004). It is therefore inferred that the management of totemic or kinship species applies at the species/population level and not to individual plants and animals.			

Aspect	Cultural features and heritage values
	- Resource collection: Direct impact to communities using these resources will inherently occur when the resource disappears, is displaced or suffers a reduction in population. Therefore, marine species (as resources) will be impacted where there is an impact at the species/population level. <u>Marine ecosystems and species</u> - Marine ecosystems may hold both cultural and environmental value (see Section 4.9) with cultural and environmental values intrinsically linked (DCCEEW, 2023; MAC, 2021 as cited in Woodside, 2023a). It necessarily follows that an impact to marine ecosystems has the potential to impact cultural features where the impact is detectable within Sea Country – the seascape which Traditional Custodians view, interact with or hold knowledge of. <u>Coastal landforms</u> - Coastal landforms may have cultural values either through association with intangible values described above (e.g. as features of a songline, physical manifestations of ancestor beings) or as archaeologically prospective locations (e.g. water sources with increased habitation/use, dunes used for burials) <u>Intangible values</u> <u>Songlines</u> Management of intangible cultural heritage can include reducing impacts and risks to tangible features that are associated with intangible cultural heritage (UNESCO, 2003; ICOMOS, 2013). Impacts to marine plants, animals and other cultural features associated with songlines might impact the intergenerational transmission of knowledge of songlines when individuals can no longer witness or interact with the cultural features tied to songlines on Country. Therefore, managing songlines may require environmental controls to minimise potential impact to marine fauna at a population level, including migratory routes. Refer to species-specific assessment below for further information. Physical features comprising a component of a songline are important to protect to prevent the fragmenting or breaking apart of songlines and loss of sacred cultural knowledge. Songlines can become lost, fragmented, or broken when there is a loss of Country or impact to culturally important physical features (Neale & Kelly, 2020:30). No specific details of songlines within the EMBA have been provided by relevant persons during consultation for this Activity, and no landforms typical of songlines (e.g. rocks, mountains, rivers, caves and hills (Higgins, 2021:724)) are anticipated to be impacted by the Petroleum Activity. <u>Creation/Dreaming sites; sacred sites; ancestral beings</u> Woodside has undertaken all reasonable steps to identify Creation and Dreaming sites, sacred sites, and places associated with ancestral beings within the EMBA. No such sites have been identified. A review of relevant literature has been undertaken which has identified Creation, Dreaming and ancestral narratives related to the sea more broadly without confirming where (if anywhere) these overlap the EMBA. These references are of a general nature, and do not identify any features or values requiring specific protection or management from the proposed activities. In the literature reviewed, sea serpents or water serpents are common in Aboriginal creation narratives, and several references were identified. The majority of these refer to serpents residing within inland rivers or pools outside of the EMBA (Barber & Jackson, 2011, Hayes v Western Australia [2008] FCA 1487, Juluwarlu, 2004; Water Corporation, 2019). In some versions, the serpent originates from the sea or coast and creates the rivers as it heads inland. Areas of the current coastline and past coastlines at various points along the Ancient Landscape – where the Serpent would have emerged onto the land – are within the EMBA. Areas of the broader ocean where the serpent may have originally lived are not specified. Barber & Jackson (2011) also recount a story where a freshwater serpent pushes a sea serpent back into the ocean where it presumably continues to reside. This does not provide the specificity required to determine the location of sea serpents within the sea, and it is possible that the ocean as a whole (out to and beyond other continents) should be viewed generally as housing the sea serpent(s). Consultation with Traditional Custodians and ethnographic surveys have not identified impacts on sea serpents from the Petroleum Activity. However, by analogy to other water serpent narratives across Australia, possible impact pathways may include interruption of its path by blocking or reducing flows of water, damaging sacred sites such as thalu or rock art sites or depleting water sources. No impacts to water flows (either tidal movement or ocean currents) or depletion of water sources are anticipated from this Petroleum Activity. <u>Cultural obligations to care for Country</u> Caring for Country collectively refers to the cultural obligations of individuals and groups, as well as rituals and ceremonies required for the physical and spiritual health of the environment. Lack of access to coastally located cultural sites that carry songlines or remain ceremonially important can

Aspect	Cultural features and heritage values
	impact First Nations people's livelihoods and impact their ability to carry out cultural obligations on Country. <u>Knowledge of Country/customary Law and transfer of knowledge</u> Cultural knowledge about Sea Country/customary Law and the intergenerational transmission of knowledge are important values identified through consultation, assessments and the literature review. Transfer of knowledge includes continuing traditional practices to pass on practical skills. Direct impact to communities practicing these skills will inherently occur when relevant aspects of the environment disappear, are displaced or suffer a reduction in population – for example traditional fishing methods require the survival of traditional fish resources. Therefore, ensuring the transmission of cultural knowledge may require environmental controls protecting species and migratory pathways at a population level. Refer to species specific assessment below for further information. <u>Connection to Country</u> Connection to Country describes the multi-faceted relationship between First Nations people and the landscape, which is envisioned as having personhood and spirit. No impacts to connection to Country are anticipated as a result of exclusion or displacement of Aboriginal communities. Access to Country is discussed below. <u>Murujuga Cultural Landscape</u> There is no overlap between the Operational Area and the boundary of the Murujuga Cultural Landscape World Heritage Area. Intangible values associated with MCL are preserved through the ongoing connection the Traditional Owners maintain with the landscape. Woodside maintains an ongoing relationship with the cultural authority of the MCL (MAC), to ensure these values are uninterrupted by the Petroleum Activity. Additionally, Woodside actively provides funding to the Murujuga Land and Sea Unit to assist in its ongoing management of Country and Sea Country associated with the MCL. In the unlikely event of a spill that may affect the OUV of MCL, the appropriate cultural authority would be engaged as specified in Appendix H. As there are no planned impact pathways identified for the MCL, its OUVs are expected to be maintained. <u>Access to Country</u> Access to Country, including Sea Country, is necessary for the continuation of other values including caring for Country and the transfer of traditional knowledge. Access is also a value in its own right, as a continuation of traditional Sea Country access and use. Access to areas within the Operational Area may be limited where exclusion zones are established around vessels for safety purposes. Further the exclusion zones around drilling activities are temporary and presence of subsea infrastructure are not anticipated to affect navigation, particularly given the water depth. Access to Country within the EMBA is also not expected to be affected in the highly unlikely event of an unplanned hydrocarbon release. However relevant cultural authorities will be engaged in the event of a spill that may affect them, as specified in Appendix H. <u>Restrictions on access to Country</u> No information was received which suggested any part of the Operational Area cannot be accessed in a culturally appropriate way. However, some areas of the EMBA may be subject to cultural restrictions on access or may be culturally dangerous to access in any respect. Access to these areas would only be required in response to an unplanned impact. <u>Kinship systems and totemic species</u> Individuals may have kinship to specific species (Smyth, 2008; Juluwarlu, 2004) and/or a responsibility to care for species (Muller, 2008). These relationships are understood to impose obligations on Traditional Custodians. It is understood that these obligations do not impose restrictions on other people generally, but it is considered that impacts to species at a population level may inhibit Traditional Custodians with kinship relationships' ability to perform their obligations where this results in reduced or displaced populations. It is therefore considered that the management of totemic or kinship species applies at the species/population level and not to individual plants and animals. As such, impacts to individual marine fauna is not expected to impact on the totemic or kinship cultural connection. Refer to species specific assessment below for further information. <u>Resource collection</u> A number of marine species are identified through consultation and literature as important resources, particularly as food sources. In addition to their immediate value as sustenance, the gathering and preparation of these resources are informed by cultural knowledge, and an inability to use these resources may result in a loss of ability to transfer that knowledge to future generations.

Aspect	Cultural features and heritage values
	Direct impact to communities using these resources will inherently occur when the resource disappears, is displaced or suffers a reduction in population. Therefore, these communities may be impacted where there is an impact at the species/population level. Refer to species specific assessment below for further information. Relevant cultural authorities will be engaged in the event of a spill that may affect them, as specified in Appendix H. <u>Marine species</u> <u>Marine mammals</u> There are increase ceremonies/rituals for species of animals and plants, important to First Nations, to enhance or maintain populations. Thalu are places where these increase ceremonies are performed. All mentions of active ceremonial sites were confined to onshore locations, though the values may extend offshore where, for example, the thalu relates to marine species populations. As thalu ceremonies are performed to maintain and increase populations of marine species, it is considered that management applies at the species/population level and not to individuals – for example, the thalu site on Murujuga which “brings in whales to beach” will continue to serve its purpose so long as whales continue to migrate through Mermaid Sound. Related intangible cultural heritage may include the transmission of cultural knowledge about whales and whale behaviour, including birthing areas, whale communication and migratory patterns. Such cultural knowledge may be associated with various cultural functions and activities that support the social and economic life of a community (Fijn, 2021). First Nations groups have expressed interest about whale migratory routes and studies (Table 4-19). Inter-generational transmission of cultural knowledge (including songlines) relating to marine mammals may be impacted where changes to population or behaviour at a population level results in reduced sightings (e.g. through population decline, changes to migration routes or changes to migration seasonality). This transfer of knowledge may be integral to managing a group's intangible cultural heritage (UNESCO, 2003). As described in the relevant environmental impact and risk assessment, potential impacts to whales are limited to behavioural disturbance to transient individuals, which are not considered to be ecologically significant at a population level, and hence not expected to impact the value of marine mammals, including the transmission of cultural knowledge. The Operational Area does overlap the BIAs for migration for the pygmy blue whale and humpback whale. As such, cultural values and intangible cultural heritage associated with these species are expected to be maintained. <u>Marine reptiles</u> Turtles and their eggs have been identified through consultation and existing literature as an important resource, particularly as food sources (Table 4-19). Direct impact to communities using these resources will inherently occur when the resource disappears, is displaced or suffers a reduction in population. Therefore, these species (as resources) will be impacted where there is an impact at the species/population level. Intangible cultural heritage may also include the transmission of cultural knowledge about marine reptiles, such as nesting areas, hunting areas and migratory patterns. Such cultural knowledge may be associated with various cultural functions and activities that support the social and economic life of a community (Fijn, 2021). First Nations groups have expressed an interest regarding turtle monitoring programs and migration patterns (Table 4-19). Activities that impact turtle populations and their marine environment may have an indirect impact on some Aboriginal communities as this can limit access to cultural sites or deplete hunting areas that would threaten local food security (Delisle et al., 2018:251). Inter-generational transmission of cultural knowledge (including Songlines) relating to marine reptiles may be impacted where changes results in reduced sightings (e.g. through population decline, changes to migration routes or changes to migration seasonality). This transfer of knowledge may be integral to managing a group's intangible cultural heritage (UNESCO, 2003). As described in the relevant environmental impact and risk section, potential impacts to marine reptiles are predicted to be at an individual level, which are not considered to be ecologically significant at a population level. Impacts will not occur to significant proportions of the populations of the species, nor result in a decrease of the quality of the habitat such that the extent of these species is likely to decline. Further, the Operational Area and EMBA do overlap marine turtle BIAs. As such, cultural values and intangible cultural heritage associated with these species are expected to be maintained. <u>Fish</u> Fish have been identified through consultation and existing literature as an important resource, particularly as food sources. Direct impact to communities using these resources will inherently occur when the resource disappears, is displaced or suffers a reduction in population. Therefore,

Aspect	Cultural features and heritage values
	these species (as resources) will be impacted where there is an impact at the species/population level. During consultation, fish were identified as important agents in the management of the broader ecosystem in Mermaid Sound, and generally to marine environments. Inter-generational transmission of cultural knowledge relating to fish may be impacted where changes to population/behaviour results in reduced sightings (e.g. through population decline). This transfer of knowledge may be integral to managing a group's intangible cultural heritage (UNESCO, 2003). Intangible cultural heritage associated with fish, including inter-generational knowledge regarding fishing techniques and migratory patterns, can be managed by reducing impacts to fish in nearshore marine environments to which this cultural knowledge is intrinsically connected. As described in the relevant environmental impact and risk sections, it is expected that fish, sharks and rays may demonstrate avoidance or attraction behaviour however, potential impacts are not considered to be ecologically significant at a population level. As such, cultural values and intangible cultural heritage associated with these species are expected to be maintained. <u>Benthic habitats (coral, seagrass)</u> Through consultation, First Nations groups identified benthic habitats as valuable for their ecological values, including corals attracting fish and seagrass providing shelters for fauna, as well as an important habitat for dugongs. Additionally, coral is valued by MAC for its aesthetic values. As described in the relevant environmental impact assessments in Sections 6.7 and 6.8, the potential impacts from the Petroleum Activity on benthic habitats is assessed to be no lasting effect. Potential environmental impacts to benthic communities have been assessed in Sections 6.7 and 6.8. In terms of risk, as described in Sections 6.7 and 6.8, a change in habitat may occur due to a change in water or sediment quality following an unplanned hydrocarbon release. Given hydrocarbon characteristics, rapid weathering, short-term exposure, as well as the response strategies planned to be deployed, an unplanned release is not expected to result in a level of exposure to coral and seagrass that would cause an adverse impact on marine ecosystem functioning or integrity results. As such, cultural values and intangible cultural heritage associated with benthic habitats are expected to be maintained. <u>Shoreline habitats (coastal vegetation, mangroves)</u> Through consultation, First Nations groups identified shoreline habitats as valuable for their ecological values, including coastal vegetation such as mangroves which provide shelter to marine invertebrates, which are identified resources, and potential nursery for turtles. Literature also notes that mangroves are also valued for the flora and fauna they are associated with and support (Commonwealth of Australia, 2002) and Smyth (2007) reports that mangrove seeds are used as a resource by Ngarda-Ngarli. There is no overlap between the Operational Area and shoreline habitats, and no planned impacts to shoreline habitats from the Petroleum Activity. In terms of risk, as described in Sections 6.7 and 6.8, a change in habitat may occur due to a change in water or sediment quality following an unplanned hydrocarbon release. Given hydrocarbon characteristics, rapid weathering, as well as the response strategies planned to be deployed, an unplanned release is not expected to have a substantial adverse impact on marine ecosystem functioning or integrity. As such, cultural values and intangible cultural heritage associated with shoreline habitats are expected to be maintained. <u>Coastal landforms</u> There is no overlap between the Operational Area and coastal landforms, and no planned impacts to coastal landforms from the Petroleum Activity. For coastal landforms beyond the Operational Area, the EMBA is driven by an unplanned hydrocarbon release. There is no anticipated impact pathway from the presence of marine diesel on the physical existence of coastal landforms such as hills, waterways or dune systems. Access to Country within the EMBA is also not expected to be affected in the highly unlikely event of an unplanned hydrocarbon release. However relevant cultural authorities will be engaged in the event of a spill that may affect them, as specified in Appendix H. As such, cultural values and intangible cultural heritage associated with shoreline habitats are expected to be maintained.

Aspect	Cultural features and heritage values
	Conclusion The impact and risk assessment has determined that the planned activities are unlikely to result in an impact greater than Minor (1) and unplanned activities are assessed to have a residual risk rating of 30 (or lower) which is considered “Tolerable” according to the Woodside PetDW Risk Matrix. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6 of this EP).

Demonstration of ALARP				
Control considered	Feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
Apply a ‘living heritage’ ⁷⁴ management approach. Woodside seeks advice and incorporates Traditional Custodian cultural knowledges across our activities. Cultural safety considerations are factored for our workforce and the Traditional Custodian community.	F: Yes. CS: Minimal.	Implementation of the ‘living heritage’ approach pays acknowledgement and respect to Traditional Custodian communities. It supports the transfer of cultural knowledges and is an effective strategy to manage intangible cultural values.	Benefits outweigh cost/sacrifice.	Yes C 19.1
C 3.1 EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with cetaceans, including the following measures ⁷⁵ : - Project vessels will not travel greater than 6 knots within 300 m of a cetacean (caution zone) and not approach closer than 100 m from a whale. - Project vessels will not approach closer than 50 m for a dolphin and/or 100 m for a whale (with the exception of animals bow riding). - If the cetacean shows signs of being disturbed, project vessels will immediately withdraw from the caution zone at a	F: Yes. CS: Minimal.	Implementation of controls for reduced vessel speed around marine fauna can potentially reduce the underwater noise footprint of a vessel and reduces the likelihood of impact or influence on whale activity. Where this control prevents impacts to whales at a population level, it maintains a culturally significant resource to a level that results in no observable change to coastal communities (migratory pathways maintained).	Benefits outweigh cost/sacrifice.	Yes C3.1

⁷⁴ Living heritage supports community and individual identity. Intangible cultural heritage is ‘living heritage’ that is inherited from ancestors and passed on to their descendants. It is comprised of many influences, including oral traditions, art, social practices, rituals and ceremonies, cultural knowledge and practices. It is transmitted from generation to generation, and evolves in response to the environment. Woodside applies a ‘living heritage’ approach to its cultural heritage management. This includes ensuring that Traditional Custodians are given voice to identify interests, transmit information and express concerns. Woodside works with Traditional Custodians to support and follow appropriate cultural protocols, including calling to Country, conducting smoking ceremonies (in areas where this custom is appropriate) and undertaking cultural awareness.

⁷⁵ For safety reasons, the distance requirements below are not applied for a vessel holding station or with limited manoeuvrability; e.g. anchor handling, loading, back-loading, bunkering, close standby cover for overside working and emergency situations.

Demonstration of ALARP				
Control considered	Feasibility (F) and cost/sacrifice (CS)	Benefit in impact/risk reduction	Proportionality	Control adopted
constant speed of less than 6 knots.				
Should it be identified that relevant cultural authorities may be affected in the unlikely event of a spill, Woodside will engage with those parties as appropriate and in alignment with the oil spill preparedness and response mitigation assessment.	F: Yes. CS: Minimal.	Engaging with relevant cultural authorities that may be impacted by a spill will allow the Traditional Custodians to identify areas of concern. This will also allow Traditional Custodians to confirm areas where access is not culturally appropriate so these can be considered for avoidance, or advice of the necessary requirements to access such areas (such as the gender of respondents or necessary ceremonies).	Benefits outweigh cost/sacrifice.	Yes Adopted, see Appendix H
As marine ecosystems may hold both cultural and environmental value (see Section 4.9), with cultural and environmental values intrinsically linked, in addition to the above controls, the controls in Section 6.7 and Section 6.8 will reduce impacts to cultural features and heritage values.				
ALARP statement: On the basis of the impact and risk assessment outcomes and use of the relevant tools appropriate to the decision type (i.e. Decision Type A). Woodside considers the adopted controls appropriate to manage the potential impacts and risks to cultural features and heritage values. As no reasonable additional/alternative controls were identified that would further reduce the impacts without grossly disproportionate sacrifice, the impacts are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact and risk assessment has determined that the planned activities are unlikely to result in an impact greater than Minor (1) and unplanned activities are assessed to have a residual risk rating of 30 (or lower) which is considered Tolerable according to the Woodside PetDW Risk Matrix. Woodside recognises and supports the ongoing management of heritage values under listings Murujuga Cultural Landscape World Heritage listing, Murujuga National Park and Dampier Archipelago (Including Burrup Peninsula) National Heritage place. Based on the relevant EPOs (13,14, 24) and the adopted controls, activities proposed under the Petroleum Activity are not inconsistent with relevant heritage legislation, management plans and agreements under which these values are protected and conserved. The Petroleum Activity and the EMBA do not overlap the Ancient Landscape and they are not anticipated to have a significant impact on MNES (Section 4) including marine fauna with a First Nations connection with, or traditional use in nearshore areas as defined in Section 4.9.4. Woodside has engaged with Traditional Custodians adjacent to the EMBA to understand the cultural features and heritage values that may occur and potential impacts from the activity. Further opportunities to reduce the impacts have been investigated above. The potential impacts and risks are considered acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks to cultural features and heritage values to a level that is acceptable if ALARP.

Environmental Performance Outcomes, Standards and Measurement Criteria related to Cultural Features and Heritage Values ⁷⁶			
EPO	Adopted Control(s)	EPS	MC
EPO 24 No adverse impact to cultural features and heritage values without a permit.	C 19.1 Apply a 'living heritage' management approach. Woodside seeks advice and incorporates Traditional Custodian cultural knowledge across our activities. Cultural safety considerations are factored for our workforce and the Traditional Custodian community.	PS 19.1.1 Woodside will continue to give voice to Traditional Custodians to identify interests, transmit information and express concern.	MC 19.1.1 Records demonstrate change management and management of knowledge processes have been followed where new controls or management measures identified.
		PS 19.1.2 Woodside will assess and where deemed practicable will implement appropriate cultural protocols by Traditional Custodians.	MC 19.1.2 Records demonstrate Woodside implemented cultural protocols as requested.

⁷⁶ As marine ecosystems may hold both cultural and environmental value (see Section 4.9.1), with cultural and environmental values intrinsically linked, in addition to the specific controls for cultural features and heritage values, the controls and performance standards in Sections 6.7 and 6.8 will reduce impacts to cultural features and heritage values.

7 IMPLEMENTATION STRATEGY

7.1 Overview

Regulation 22 of the Environment Regulations requires an EP to contain an implementation strategy for the Petroleum Activity. The implementation strategy for the Petroleum Activity confirms fit-for-purpose systems, practices and procedures are in place to direct, review and manage the activities so that environmental risks and impacts are continually being reduced to ALARP and are acceptable, and that EPOs and EPSs outlined in this EP are achieved.

Woodside, as operator, is responsible for ensuring that the Petroleum Activity is managed in accordance with this implementation strategy.

7.2 Systems, practice and procedures

All operational activities are planned and carried out in accordance with relevant legislation and internal environment standards and procedures identified in this EP (Section 6).

Processes are implemented to verify controls to manage environmental impacts and risks to:

- a level that is ALARP and acceptable
- meet EPOs
- comply with EPSs defined in this EP.

The systems, practices and procedures that will be implemented are listed in the EPSs contained in this EP. Document names and reference numbers may be subject to change during the statutory duration of this EP; this is managed through a change register and management of change process (Section 7.6). Further information regarding some of the key systems, practices and procedures relevant to implementation of this EP is provided below.

7.3 Woodside (PetDW) Management System

The Woodside PetDW Management System defines the boundaries within which all activities are conducted. It provides a structured framework to set common requirements, boundaries, expectations, governance and assurance for all activities. It also supports accountabilities and responsibilities as defined in the organisational structure. The overarching objective of the Woodside PetDW Management System is to aspire to zero harm to people, communities and the environment, and achieve leading industry practice.

This EP has been designed to meet the environmental aspects of the Woodside PetDW Management System framework and establishes the foundation for continual improvement through the application, monitoring and auditing of consistent requirements across all aspects of the Petroleum Activity including;

- identification of statutory obligations and commitments to ensure maintenance of licence to operate
- implementation of petroleum risk management processes, including this EP
- scheduled monitoring and auditing of control implementation
- completion of reviews, and reporting outcomes of these reviews

7.4 Woodside invasive marine species risk assessment process

7.4.1 Objective and scope

To minimise the risk of introducing IMS, all applicable vessels and immersible equipment will be subject to Woodside's IMS risk assessment process (unless exempt as outlined below).

The objective of the risk assessment process is to identify the level of threat a contracted vessel, or immersible equipment poses if no additional risk reduction management measures are implemented. This allows Woodside (and its contractors) to apply management options that are commensurate to the identified level of risk.

The IMS risk assessment process does not apply to:

- vessels or immersible equipment that do not plan to enter the IMS Management Area (IMSMA)⁷⁷
- 'new build' vessels or immersible equipment launched less than 14 days before mobilisation
- locally sourced vessels or immersible equipment from within the Western Locally Sourced Zone⁷⁸.
Vessels, or immersible equipment are defined as locally sourced when the same supply facilities/port have been used since their last IMS inspection, full hull clean in dry dock or application of AFC.

7.4.2 Risk assessment process

Woodside's IMS risk assessment process was developed with regard to the national biofouling management guidelines for the petroleum production and exploration industry (Marine Pest Sectoral Committee, 2018) and guidelines for the control and management of a ships' biofouling to minimise the transfer of invasive aquatic species (IMO, 2023).

To effectively evaluate the potential for vessels and immersible equipment to introduce IMS, a risk assessment process has been developed to score and evaluate the risk posed by each project vessel, or immersible equipment planning to undertake activities within an IMSMA or operational area. The risk assessment process considers a range of factors, as listed in Table 7-1 and

Table 7-2.

The IMS risk assessments will be undertaken by a trained environment adviser who has completed relevant Woodside IMS training or by a qualified and experienced IMS inspector. A quality assurance and control process is implemented for all Woodside-conducted IMS risk assessments where a secondary trained environment adviser verifies the assessment to minimise the risk of misapplication and errors within the risk assessment process.

Table 7-1: Key factors considered as a part of the risk assessment process for vessels

Factors	Details
Vessel type	The risk of IMS infection varies depending on the type of vessel undertaking the activity. A higher risk rating is applied for more complex, slow-moving vessels (e.g. dredges) in comparison to simple vessels (e.g. crew transfer vessel).
Recent IMS inspection and cleaning history, including for internal niches	In the case of biofouling on external hull niches, different risk ratings are applied depending on whether out-of-water or in-water IMS inspections by qualified IMS inspectors and cleaning (if required) have been undertaken prior to contract commencement. If an IMS inspection (and clean if required) has not been undertaken in the past six months (from the time of contract commencement), the highest risk factor is applied. The risk factor then lessens for vessels as the time between inspection and mobilisation reduces.
Out-of-water period before mobilisation	A risk reduction factor can be applied for vessels that are hauled out and then mobilised as deck cargo or by road during mobilisation, therefore becoming air dried over an extended period. Risk reduction factor increases with exposure time out of water.
Age and suitability of AFC at mobilisation date	AFC manufacturers provide a range of coatings, each designed to avoid premature coating failure if it is correctly applied and matched to the vessel's normal speeds and activity profile (i.e. proportion of time spent stationary or below 3 knots), and its main operational region (i.e. tropical, subtropical temperate). If the AFC type is deemed to be unknown, unsuited or absent, the highest risk value is applied. If the AFC type is suitable the risk factor applied reduces with age since application.
Internal treatment systems	A risk reduction factor applied if the vessel has an internal biological fouling control system in place at the time of assessment, or evidence of manual dosing.

⁷⁷ The IMSMA is defined as all nearshore waters around Australia, extending from the lowest astronomical tide mark to 12 NM from land ('Territorial Seas', and including Australian territorial islands). The IMSMA also includes: (i) all waters which are shallower than the 50-metre depth contour outside of the 12 NM boundary, thereby encompassing submerged reefs and atolls, and (ii) Operational Areas defined in environmental approvals. The IMSMA is based on current maritime boundary definitions, legal frameworks and requirements, IMS risk interpretations and existing management arrangements applied by Commonwealth and State/Territory regulatory agencies.

⁷⁸ The Western Locally Sourced Zone spans an area that includes the entire Western Australian coastline out to the Exclusive Economic Zone limit at 200 NM (excluding any government-declared Quarantine Areas).

Factors	Details
Vessel origin and proposed area of operation	Differing risk ratings are assigned in relation to the climatic relationship between the vessel's origin and the proposed climatic region of the proposed area of operation. Highest risk rating is applied to similar climatic regions.
Number of stationary/slow speed periods >seven days	A risk factor is calculated based on the number of seven-day periods that the vessel has operated at stationary or at low speed (<3 knots) in port or coastal waters, which is any waters <50 m deep outside 12 NM from land or any waters within 12 NM of land. The greater the number of periods, the higher the risk factor applied.
Region of stationary or slow periods	A further multiplier is applied depending on the location of the stationary/slow speed periods. The highest risk rating applied if the stationary or slow speed periods occurred within ports or coastal waters of the same climatic region.
Type of activity – contact with seafloor	The potential for the introduction of IMS varies on the planned vessel activity taking place. Those activities that come in contact with sediments and thus have the potential to accumulate and harbour IMS in areas such as hoppers (dredges) and spud cans (drilling rigs) are considered to have a greater risk of infection.

Table 7-2: Key factors considered as a part of the risk assessment process for immersible equipment

Factors	Details
Region of deployment since last thorough clean, particularly coastal locations	Climatic region of use since last overhaul, thorough cleaning or prolonged period out of water (>28 days). Highest risk rating is applied to similar climatic regions. Activities occurring in nearshore areas (<50 m deep and/or within 12 NM from land) are given the highest risk rating.
Duration of deployments	Maximum duration of deployment (maximum time in water) since last overhaul or thorough cleaning. The longer the immersion period, the higher the risk rating applied.
Duration of time out of water since last deployment	A further risk reduction factor can be applied for immersible equipment that has been out of the water for an extended period.
Transport conditions during mobilisation	If the equipment is stored in damp conditions, then a high risk factor is applied, while if equipment is stored in dry and well ventilated (low humidity) conditions, then a low risk factor is applied.
Post-retrieval maintenance regime	A risk reduction factor is applied if the equipment/item of interest is routinely washed, cleaned, checked and/or disassembled between project sites, while a higher risk rating is applied where no routine cleaning occurs.
Region of deployment since last thorough clean, particularly coastal locations	Climatic region of use since last overhaul, thorough cleaning or prolonged period out of water (>28 days). Highest risk rating is applied to similar climatic regions. Activities occurring in nearshore areas (<50 m deep and/or within 12 NM from land) are given the highest risk rating.
Duration of deployments	Maximum duration of deployment (maximum time in water) since last overhaul or thorough cleaning. The longer the immersion period, the higher the risk rating applied.

Following implementation of the risk assessment process, vessels and/or immersible equipment are classified as one of three risk categories:

- 'Low' – Low risk of introducing IMS of concern and hence no additional management required, or management options have been applied to reduce the risk
- 'Uncertain' – risk of introducing IMS is not apparent and as such the precautionary approach is adopted, and additional management options may be required
- 'High' – High risk of introducing IMS means additional management options are required before this vessel mobilises to the Operational Area.

Following the allocation of a 'low' risk rating for a vessel or immersible equipment, the information provided by the vessel operator for the purposes of risk assessment must be confirmed before mobilisation. For vessels or equipment classified as posing an Uncertain or High theoretical risk, a range of management options are presented to reduce this theoretical risk to acceptable levels and achieve a Low risk status. These management options have been developed with the intention of reducing IMS risk to levels that are

ALARP. It is a flexible approach that allows for a range of management actions to be tailored for a specific vessel movement. These will be assessed on a case-by-case basis and may include:

- having a suitably qualified and experienced IMS inspector inspect (desktop, in-water or dry dock) to verify risk status; where practicable, the inspection shall occur within seven days (but not more than 14 days) before final departure to the Operational Area
- applying in-water or dry dock cleaning of the hull and other niche areas, typically applied where the risk assessment outcome is High risk driven by the age of the AFC on the vessel and its time spent in similar climatic region ports
- limiting the duration that the vessel spends within the IMSMA to a maximum of 48 hours (cumulative entries); applicable for Uncertain risk vessels only
- rejecting the vessel.

In some circumstances, such as emergency scenarios or in the presence of serious logistic constraints or other factors outside of the control of Woodside, it may not be possible to effectively apply any of the IMS management measures available and described above. In the absence of regulatory conditions, commitments, or other legislative obligations that prescribe management measures for IMS, a risk assessed alternative process is available which must be approved by the relevant Business Vice President (VP), and HSE VP.

Before they enter the Operational Area, survey vessels and immersible equipment are required to be a low risk of introducing IMS.

7.5 Risk management

Risk management processes and practices are applied on an ongoing basis to design, production and maintenance activities for the Pyrenees Facility to manage risks to personnel, assets and the environment.

Potential environmental consequences and impacts of the Pyrenees Facility are assessed and controlled in accordance with the Woodside PetDW risk management processes described in Section 2.2 of this EP (environmental risk management methodology).

The results of the Pyrenees Facility ENVID are described in Section 6 and in the Environmental Impacts and Risk Register. This register, in conjunction with the EP, provides a demonstration that environmental impacts and risks have been identified, and that appropriate controls are in place to manage them to a level that is acceptable and ALARP throughout the life of the facility.

A number of other risk management tools and techniques are used to manage environmental and other risks on a routine basis during operational, maintenance and inspection tasks. Examples include:

- the processes outlined in Section 2
- risk management tools, including hazard identification and risk assessments and Level 2 risk assessments, operational risk assessments, the technical management of change system (Section 7.6), and Step Back 5×5
- integrity review studies, HAZIDs and hazard operability studies.

These tools, risk and integrity management practices are described further in the Pyrenees Facility Safety Case and the WOMP.

In addition, other risk sub-processes and practices are also applied within Woodside on an ongoing basis to manage different types of risk. A summary of those relevant to the Petroleum Activity is provided below. Woodside PetDW's risk management processes (refer to Section 2.2.1), along with the supporting risk sub-processes and practices discussed in this section, ensure the environmental impacts and risks of the Petroleum Activity continue to be identified and reduced to a level that is ALARP.

7.5.1 Management of risks – contracting and procurement

Suppliers and contractors play a significant role in meeting the resource needs of Woodside PetDW's operations. Effective management of environmental risks in contracts is achieved by setting clear expectations and managing environmental risks throughout the duration of the contract.

The Health, Safety and Environment in Contracts and Procurement Procedure establishes the HSE requirements to manage contractors performing tasks in relation to the plant and pipeline. The Health, Safety and Environment in Contracts and Procurement Procedure ensures contractors are informed of their requirement to comply with the requirements of the Woodside (PetDW) HSE Management system. Third parties are assessed under the process prior to being engaged. This process includes, but is not limited to, an assessment of HSE, management and maintenance systems.

7.5.2 Management of risks – well integrity

Wells are managed throughout their lifecycle in line with the Well Lifecycle Management Procedure. This procedure provides the basis for ensuring well integrity in accordance with the Process Safety Management Procedure.

In addition, wells are required to have a regulator accepted WOMP to demonstrate that well integrity risks are managed to ALARP levels. Wells tied back to the facility and 'exploration wells temporarily abandoned' are managed under a WOMP.

Management of operating wells can be formally transferred from Operations to the Global Wells and Seismic (GWS) team for activities such as well intervention and workover. Where activities are undertaken by GWS, the risks are managed under the GWS Risk Management Procedure, which specifically addresses the risk of loss of containment from a well or well related equipment. This procedure supplements the Woodside Risk Management Procedure.

7.5.3 Management of risks – marine services

Woodside's Marine Services Function provides a platform for the conduct of safe and efficient marine operations across Woodside through the Marine Services Management. A set of procedures that support vessel assurance and management (including HSE and quality management) are in place to ensure marine operations are conducted in a safe and efficient manner, and in accordance with regulatory requirements.

More details on vessel assurance and the communication of environment requirements to vessels are provided in Section 7.11.4.

Vessel masters are required to request clearance from the facility OIM or delegate prior to entering the 500 m PSZ.

7.5.4 Management of risks – direct greenhouse gas emissions management

Emissions generation and energy use is to be managed in accordance with the GHG Emissions and Energy Management Procedure (from 2027), which defines the minimum mandatory requirements to deliver continuous improvement in energy efficiency and reduce GHG emissions. This procedure supports the implementation of Woodside's Climate Policy, aligns with the Woodside Environmental Management Standard for assets in Operate phase and supports the 'operate out' component of limiting net emissions.

Implementation of the procedure assists in meeting external expectations, including Woodside's net equity Scope 1 and 2 GHG reduction targets of 15% by 2025 and 30% by 2030, and the aspiration for net zero by 2050 or sooner⁷⁹. These targets are applied across the portfolio, with progress reported in annual corporate disclosures. No specific reduction targets are set for individual assets. Achievement of corporate targets may require additional net voluntary abatement beyond the SGM requirements.

The procedure maintains consistency with the principles of current corporate initiatives, including the Zero Routine Flaring Initiative for oil assets, the OGMP 2.0, OGCI Near-Zero, and Methane Guiding Principles. Section 3 of the Climate Management Standard requires assets that emit material amounts of methane to continually reduce methane through leak detection and repair, annual routine monitoring, accountability and governance, improving methane emissions data and increasing transparency through reporting. Where emissions cannot be mitigated, appropriate controls consistent with the principles of the OGCI Near-Zero are applied.

The GHG Emissions and Energy Management Procedure links to the annual review of opportunities to improve energy performance through identification and evaluation as described in the Production

⁷⁹ Targets and aspiration are for net equity Scope 1 and 2 greenhouse gas emissions relative to a starting base of 6.32 Mt CO₂-e which is representative of the gross annual average equity Scope 1 and 2 GHG emissions over 2016–2020 and which may be adjusted (up or down) for potential equity changes in producing or sanctioned assets with a final investment decision prior to 2021. Net equity emissions include the utilisation of carbon credits as offsets.

Optimisation and Opportunity Management Procedure. It also requires measurement, analysis and communication of energy performance across the Operations Division and consideration of actual or potential impacts to energy efficiency in Woodside decision-making, such as management of change, operational decisions, issue resolution options analysis and facility optimisation plans.

Opportunities to improve energy performance or reduce emissions are identified, captured, and evaluated as described in the Production Optimisation and Opportunity Management Procedure (see Section 7.5.4.1).

Identification considers a wide range of opportunities, including those that require formal allocation of budget and resources (longer term), as well as opportunities that can be executed as part of day-to-day operations. Opportunities identified are to be evaluated and implemented in a manner consistent with the Production Optimisation and Opportunity Management Procedure.

The Woodside Environmental Performance Procedure and Management Standard require that assets measure, monitor or estimate direct air and GHG emissions, and that such emissions and energy intensities are minimised to ALARP. The requirement to set, measure and track flare and emissions targets for assets, help to manage the emissions to meet the EPS requirements in Section 6.7.5 is outlined in Section 7.5.4.2 below.

7.5.4.1 Production optimisation and opportunity management

The Pyrenees Facility has the opportunity to contribute to emissions reduction by operating safely, reliably and efficiently, driven through operational improvements across activities including energy and operating efficiency, process optimisation and reducing flaring, venting and fugitives. Opportunities to reduce emissions are identified throughout the year in various meetings, forums and teams.

In addition, the Pyrenees Facility is planning to adopt a new process for the facility, Woodside's Production and Opportunity Management Procedure. The facility is looking to commence implementing the process in 2026 and anticipating that the transition will be completed in 2026, with the process being implemented from 2027. As this is a new process for the facility, it will take time to implement. It is anticipated that will take around a year to implement as this is an annual process.

The procedure outlines the process for identification, prioritisation and management of production opportunities that maximise production revenue or reduce emissions intensity across Woodside operated assets. Opportunities are identified throughout the year in various meetings, forums and teams. In addition, formal opportunity identification takes place through annual workshops, which complement the identification of improvement opportunities. These opportunities are to be prioritised and managed according to the workflow shown in Figure 7-1.

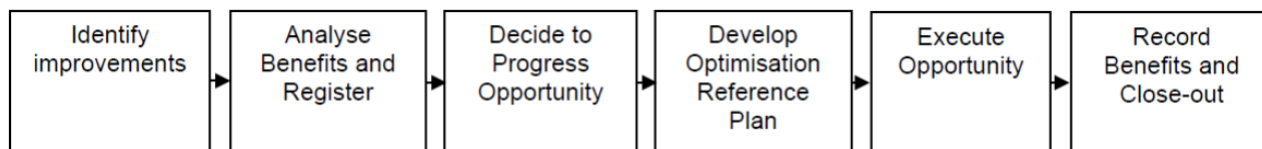


Figure 7-1: Emissions reduction opportunity management workflow

Emissions reductions opportunities are to be evaluated and progressed based on value and confidence of return, within the constraints of technical feasibility, cost and other factors. Implemented opportunities are to be validated and recorded before closeout.

7.5.4.2 Fuel gas and flare target setting and monitoring

To demonstrate the risks and impacts relating to fuel gas combustion and flaring have been reduced to ALARP, fuel gas and flare targets for the facility are set annually. Targets are currently set annually estimated based on operating experience (using historic realised data to validate assumptions related to the reservoirs, wells, subsea equipment, and facility) and forecast activities; e.g. planned maintenance and shutdowns. Consideration is also given to unplanned events such as disconnection and re-connection for cyclone avoidance. Annual development of targets also gives consideration to the fuel gas combustion and flaring estimates contained within this EP.

The fuel gas and flare targets are tracked against fuel gas combustion and flare performance through the year. Where achieving a flare target is in question, an internal flare target deviation is developed, which requires an ALARP justification. A flare target deviation considers EP flare estimates. If the estimate is likely

to be exceeded, an EP management of change assessment (see Section 7.6.1) is undertaken to determine if a revision and resubmission is required.

The facility has commenced aligning the PetDW fuel gas and flare target setting processes (previously outlined in the Pyrenees Flare and Vent Management Plan) to follow Woodside's Greenhouse Gas, Fuel and Flare Target Setting Guideline. It is anticipated that the transition will be completed in 2026, and the Greenhouse Gas, Fuel and Flare Target Setting Guideline used for targets set from 2027.

7.5.5 Management of risks – indirect greenhouse gas emissions management

As stated in the Climate Policy, Woodside's objective is to thrive in this energy transition as a low-cost, lower-carbon energy provider. To support this policy Woodside undertakes the following measures:

- Set science-based⁸⁰ near, mid, and long-term net emissions reduction targets that are consistent with Paris-aligned⁸¹ scenarios, covering equity Scope 1 and 2 emissions, both operated and non-operated.⁸²
- Develop and operate oil and gas projects in a manner that is consistent with these targets. This includes the deployment of lower-emission technologies (design out), supporting efficient operations (operate out) and use of robust offsets (offset) as methods to reduce and offset greenhouse gas emissions.
- Invest in new energy products and lower-carbon services to reduce customers' emissions (part of Woodside's Scope 3 emissions), including but not limited to hydrogen, ammonia and carbon capture, utilisation and storage.
- Publish transparent climate-related disclosures aligned to the recommendations of the Task Force on Climate-related Financial Disclosures or other recognised global reporting standards.
- Align our advocacy to the principles of this Climate Policy.

Woodside's Scope 3 targets include the introduction of new products and services into our portfolio, like hydrogen, ammonia and carbon capture, utilisation and storage. These products and services can help our customers avoid or reduce their Scope 1 or 2 emissions and therefore reduce the life cycle (Scopes 1, 2 and 3) emissions intensity of Woodside's portfolio.

Woodside's initial Scope 3 target was an investment target, to invest \$5 billion in new energy products and lower carbon services by 2030^{83,84}. In 2023, Woodside reviewed our approach to Scope 3 targets in response to investor feedback and supplemented the existing investment target with a new complementary emissions abatement target, to take final investment decisions on new energy products and lower carbon services by 2030, with total abatement capacity of 5 Mtpa CO₂e⁸⁵.

The investment target tracks Woodside's work at a corporate level to develop these projects and bring them to market. The emissions abatement target will track the potential impact of these projects on customer

⁸⁰ Woodside is using the draft Prototype IFRS Sustainability Disclosure Standard definition of 'science-based' (published 2021) which states "targets are considered 'science-based' if they are in line with what the most recent climate science sets out is necessary to meet the goals of the Paris Agreement – limiting global warming to below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit warming to 1.5 degrees Celsius." See <https://www.ifrs.org/content/dam/ifrs/groups/trwg/trwg-climate-related-disclosures-prototype.pdf>.

⁸¹ Woodside is using the draft Prototype IFRS Sustainability Disclosure Standard definition of 'Paris-aligned scenarios' (published 2021) which states "scenarios consistent with limiting global warming to below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit warming to 1.5 degrees Celsius." See <https://www.ifrs.org/content/dam/ifrs/groups/trwg/trwg-climate-related-disclosures-prototype.pdf>.

⁸² Equity emissions means the share of the total emissions arising from an activity that are attributable to Woodside in proportion to Woodside's ownership interest in the activity, irrespective of whether Woodside operates the activity. Operated emissions are the total emissions arising from an activity that Woodside operates, irrespective of Woodside's ownership interest.

⁸³ Scope 3 targets are subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance. Potentially includes both organic and inorganic investment. Timing refers to financial investment decision, not start-up/operations.

⁸⁴ Includes pre-ready-for-startup spend on new energy products and lower carbon services that can help our customers decarbonise by using these products and services. It is not used to fund reductions of Woodside's net equity Scope 1 and 2 emissions which are managed separately through asset decarbonisation plans.

⁸⁵ Includes binding and non-binding opportunities in the portfolio, subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance.

emissions. The customers for these products and services may be the same as the customers of our oil and gas business, directly substituting their energy for new products or directly abating the associated emissions. They may also be customers of the new products and services, without also being customers of oil and gas. Progress against these targets is reported annually in Woodside's annual disclosures. Targets are not set for individual projects, including Pyrenees, but are assessed corporately.

7.5.5.1 Annual review

An annual review of the implementation and outcomes associated with Woodside working with the natural gas value chain to reduce emissions in third party systems via corporate activities will be undertaken. Additionally, progress against corporate Scope 3 investment and abatement targets will be reported annually in relevant Woodside annual disclosures. If they are deemed to be effective at a corporate implementation level, then it will also be deemed that specific impacts and risks at an asset contribution level (i.e. proportion attributable to Pyrenees production) are also being managed appropriately.

If the annual review deems the controls are not effective, an EP management of change assessment is undertaken to determine if a revision and resubmission is required.

7.6 Change management

Change management is used where there is no existing approved business baseline, such as a process, procedure or accepted practice, or where conformance with an approved baseline is not possible or intended; for example, due to equipment fault or failure or a recently discovered issue which will take time to rectify. Change management is also used when the baseline is changed (e.g. the process is modified). It applies to management of temporary, permanent, planned or unplanned change encompassing one or more of the following:

- plant (equipment, plant, technology, facilities, operations or materials)
- projects (budget, schedule)
- people (organisation structure, performance, roles)
- process (WMS content, processes, procedures, standards, legislation, information).

7.6.1 EP management of change and revision

Woodside's Environmental Approval Requirements Australia Commonwealth Guideline provides guidance on the Environment Regulations that may trigger a revision and resubmission of the EP to NOPSEMA. The document also provides guidance on what may constitute as new source-based or receptor-based impacts and risks, or a significant increase in an existing source of environmental risk (to provide context in determining if EP resubmission is required under Regulations 19 and 39 of the Environment Regulations).

Minor EP changes, where a review of the activity and the environmental risks and impacts of the activity shows the changes do not trigger regulatory requirements to resubmit the EP, will be considered a 'minor revision'.

Changes with potential to influence minor or technical changes to the EP text are tracked in management of change records, project records, or the EP Updates Register, and incorporated during internal updates of the EP or the five-yearly revision.

In accordance with the requirements of Regulation 41 of the Environment Regulations, Woodside will also submit to NOPSEMA a proposed revision to this EP at least 14-days before the end of each period of five years, commencing on the day on which the original and subsequent revisions of the EP are accepted under Regulation 35 of the Environment Regulations.

7.6.2 Oil Pollution Emergency Plan management of change

Relevant documents from the OPEP will be reviewed in the following circumstances:

- implementation of improved preparedness measures
- a change in the availability of equipment stockpiles
- a change in the availability of personnel that reduces or improves preparedness and the capacity to respond

- the introduction of a new or improved technology that may be considered in a response for this activity
- to incorporate, where relevant, lessons learned from exercises or events
- if national or state response frameworks and Woodside's integration with these frameworks changes.

Where changes are required to the OPEP, based on the outcomes of the reviews described above, they will be assessed against Regulation 39 to determine if EP, including OPEP, resubmission is required (see Section 7.6.1). Changes with potential to influence minor or technical changes to the OPEP are tracked in management of change records, project records and incorporated during internal updates of the OPEP or the five-yearly revision.

7.7 Woodside decommissioning framework

Decommissioning is a routine, planned activity for the offshore oil and gas industry. Current best practice is for decommissioning to include:

- designing for decommissioning during the development phase of projects / facilities
- removing property, equipment and infrastructure, such as a facility or a pipeline, and plugging wells associated with a petroleum activity
- assessing decommissioning options and opportunities during the operational life of the facility leading up to cessation of production
- selecting, developing and planning the selected decommissioning option
- executing decommissioning plans
- restoring the marine environment.

This assists with compliance with section 572(3) of the OPGGS Act, which requires titleholders to remove property from the title area when it is neither used, nor to be used, in connection with the operations. Under section 572(7) of the OPGGS Act, the property removal requirements under section 572(3) of the OPGGS Act have effect subject to any other provision of the OPGGS Act, the regulations, directions given by NOPSEMA or the responsible Commonwealth Minister, and any other law. Under section 270(3) of the OPGGS Act, before title surrender, all property brought into the surrender area must be removed to the satisfaction of NOPSEMA, or arrangements that are satisfactory to NOPSEMA must be made in relation to the property. Sections 572(7) and 270(3) of the OPGGS Act provide scope for in-situ decommissioning and other arrangements to be made where it can be demonstrated that the risks and impacts are ALARP and acceptable as well as comply with all other Acts and legislation.

7.7.1 Decommissioning in operations

Asset specific decommissioning plans are typically developed prior to cessation of production. Planning includes redundant infrastructure as well as structures coming to the end of production and decommissioning critical systems to enable removal. Appropriate maintenance plans are developed and implemented to ensure decommissioning critical systems meet the requirements to facilitate removal.

7.7.2 Decommissioning planning

Decommissioning planning generally commences two to 10 years prior to cessation of production (CoP) (Figure 7-2). The timeframe selected for decommissioning planning depends on the complexity of the facility and infrastructure requiring decommissioning.

End of Field Life / Cessation of Production (CoP) – Preparation for CoP and Facility Decommissioning / P&A -Existing Facilities

Asset/Project Lifecycle Process

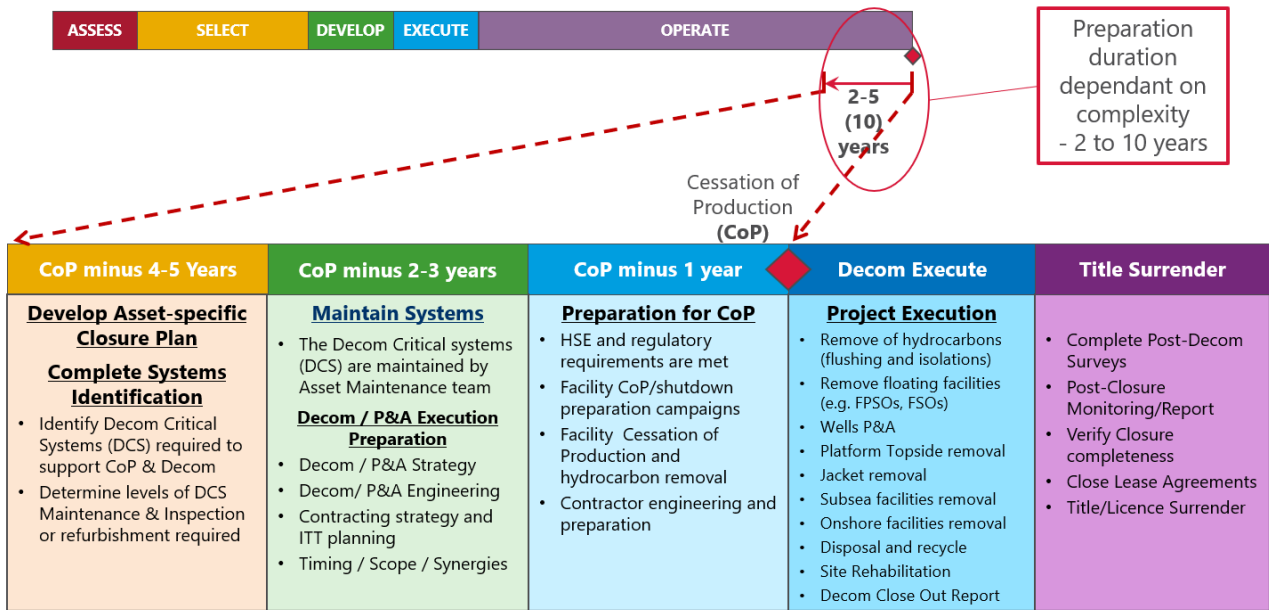


Figure 7-2: Woodside's process for decommissioning planning

7.7.3 Inventory of property within Pyrenees asset

An inventory of property associated with the Pyrenees development located within WA-42-L and WA-43-L, covered under this EP, including its status, is provided in Table 7-3.

For a more detailed breakdown of key subsea infrastructure of the Pyrenees development see Section 3.5. Other infrastructure in the WA-42-L title area outside of the Pyrenees development are beyond the scope of this EP and are covered under the Macedon Operations (Commonwealth) Environment Plan (NOPSEMA Document ID: A1156357, accepted 24 December 2024). WA-42-L and WA-43-L also contain a number of exploration wells that have been abandoned with wellheads removed. As there is no remaining infrastructure associated with these, they have not been included in Table 7-3.

Table 7-3: Inventory of Woodside infrastructure within WA-42-L and WA-43-L covered by this EP

Item	Description	Status	Decom Phase
WA-42-L			
Pyrenees Venture FPSO and DTM	FPSO is self-propelled vessel. Overall length of ~274 m DTM is a turret mooring spider buoy, anchored to the seabed by nine anchor legs comprised of chain and wire rope	Operational	Not yet applicable
Subsea wells	17 production wells	14 online, three offline	Not yet applicable
	One gas injection well – one	Online	Not yet applicable
	Four water injection wells	Three online, one offline	Not yet applicable
	One exploration well (West Muiron-5)	Plugged and suspended	Technical assessment of the West Muiron-5 well has concluded that the well requires further well intervention to be considered permanently abandoned. The planning for this scope is outlined in the <i>WA-42-L Suspended Exploration Wells - Well Operations Management Plan (WOMP) (MACPN-SO-0023)</i> submitted to NOPSEMA on October 28 2025.
Subsea infrastructure	26 subsea trees	Operational	Not yet applicable
	27 wellheads	Operational	Not yet applicable
	10 manifolds	Operational	Not yet applicable
	24 umbilical termination assemblies	Operational	Not yet applicable
	12 risers + two electro-hydraulic umbilical risers	Operational	Not yet applicable
	Nine chain/wire mooring legs (with anchors)	Operational	Not yet applicable
	26 flowlines, totalling approximately 79 km	Operational	Not yet applicable
	13 umbilicals, totalling approximately 35 km	Operational	Not yet applicable
	117 flying leads (electrical and hydraulic)	Operational	Not yet applicable
Macedon subsea infrastructure and wells	Operated, managed and detailed within Macedon Operations EP (NOPSEMA Doc A680739)		
WA-43-L			
Subsea wells	Four production wells	Operational	Not yet applicable
Subsea infrastructure	Flowlines, electro-hydraulic umbilical, hydraulic jumpers (included above)	Operational	Not yet applicable

7.7.4 Pyrenees decommissioning strategy

CoP for the Pyrenees field is estimated to be 2035; however, the CoP could change based on production forecasting; thus, the CoP date will be continuously monitored, and the timing of the planned decommissioning activities will be adjusted accordingly.

The plan for decommissioning consists of:

- After flushing and cleaning of the subsea equipment to reduce associated potential impacts and risks to ALARP, the FPSO and the DTM system will be removed out of the field for disposal or divestment.
- The next phase will include permanent plugging and abandonment of wells, removal of trees, wellheads, flexible flowlines, and the other subsea equipment (e.g. manifolds, valve stations, umbilical).

In line with Woodside's decommissioning planning process outlined above, an Asset Closure Management Plan has been prepared for Pyrenees Asset.

Decommissioning of the Pyrenees infrastructure is being undertaken in two phases:

- plan for decommissioning
- execute decommissioning.

Woodside adopts a risk-based approach to the planning and execution of decommissioning of the property.

Timing of the main activities related to decommissioning planning and execution for the Pyrenees infrastructure are subject to change as plans develop and specific decommissioning requirements are defined; however, the current schedule is presented in Figure 7-3.

7.7.5 Decommissioning planning activities

Planning for decommissioning mostly includes desktop studies and engineering design, but it may also leverage data from inspections and other activities undertaken during IMMR within the scopes of the Petroleum Activity.

During the decommissioning planning phase all infrastructure will be managed and maintained within the scope of this EP to meet Woodside's obligations under section 572. The equipment associated with the Pyrenees development will be inspected, monitored and maintained in accordance with the Woodside asset maintenance and inspection regime for producing infrastructure.

As part of closure planning on all assets, periodic reviews are undertaken to identify any equipment that may, or has, recently become redundant since the last planning period. The equipment is reviewed to understanding the decommissioning approach, including scheduling based on risk, as well as methodology. This review is then updated in the closure management plans and sets the forward decommissioning strategy.

Decommissioning execution activities will adopt a risk-based approach, that considers the NOPSEMA Decommissioning Compliance Strategy 2024–2029 (NOPSEMA, 2023a).

7.7.5.1 Offline production wells

Four wells contained within the Pyrenees Field are currently offline. The wells are ROV surveyed on an RBI basis in accordance with the Pyrenees WOMP, and are being maintained in accordance with the process described in Section 3.19 of this EP. The wells are monitored and have adequate isolation barriers. The maintenance activities performed meet Woodside's obligations under section 572(2).

A comprehensive review of the offline wells has been conducted. This review has concluded that all wells have future utility and provision has been made for their return to service prior to EOFL. Timing for the return to service is triggered by individual relative production performance decline of other Pyrenees wells in most cases (typically when water cut exceeds 95% for production wells or loss of >30% injection capacity for water injector). As the offline wells are not redundant, no activities are currently required to comply with section 572(3). The wells will continue to be managed under the provisions and arrangements described in the Pyrenees WOMP. A WOMP Revision in Parts was submitted in July 2025 and accepted in August 2025 to provide further details of the management and future return to service plans for these wells.

All wells in the Pyrenees field are reviewed annually to identify wells approaching late life or redundant status. Wells identified as redundant will remain in the Operate phase until permanent abandonment and will continue to be managed under the provision and arrangements described in the Pyrenees WOMP.

7.7.5.2 Exploration wells

One exploration well with a wellhead that has been plugged is within the scope of this EP (West Muiron-5). This well has not yet been approved for abandonment by NOPSEMA.

Detailed technical assessment of the West Muiron-5 well to determine if the current state can be considered as permanently abandoned. This assessment has concluded that the well will require further well intervention to complete the P&A and be considered permanently abandoned. The planning for this scope is outlined in the *WA-42-L Suspended Exploration Wells - Well Operations Management Plan (WOMP) (MACPN-SO-0023)* submitted to NOPSEMA on October 28, 2025.

Decommissioning of the wellhead is to progress once the well has been accepted as permanently abandoned. Timing of these activities is subject to change and dependent on the assessments to be undertaken by Woodside and NOPSEMA. Any future plug and abandonment activities are not included within the scope of this EP.

Current planning for West Muiron-5 Wellhead decommissioning is premised upon removal, with consideration of the principles of ALARP and acceptability. Once a well has been accepted as permanently abandoned and the decommissioning activity is defined, a separate EP will be submitted for the wellhead decommissioning activity. This well with a wellhead is to continue to be maintained until it is decommissioned.

7.7.5.3 Suspended subsea infrastructure

A number of subsea items listed in Section 3.5 are suspended. These are being maintained in accordance with an RBI process described in Section 3.19 with removal of this property planned to occur at EOFL. Removal during operational life is not considered to be ALARP because it is incorporated within live infrastructure which introduces additional complexities and HSE risk that can be avoided during EOFL decommissioning.

7.7.5.4 Production infrastructure

As reflected in Figure 7-3, planning commences ahead of CoP and consists of desktop studies and engineering design, that leverages data from inspections and other activities undertaken during IMMR scopes within the scope of the Petroleum Activity.

During the decommissioning planning phase all infrastructure, including suspended infrastructure, will be managed and maintained within the scope of this EP to meet Woodside's obligations under section 572.

Decommissioning execution activities are expected to adopt a risk-based approach that is informed by NOPSEMA Decommissioning Compliance Strategy 2024–2029 (NOPSEMA, 2023).

7.7.5.5 Preparation for cessation of production

Flushing of the Pyrenees flowlines and the subsea infrastructure will occur following cessation of production and prior disconnection of the FPSO for its removal out of the field.

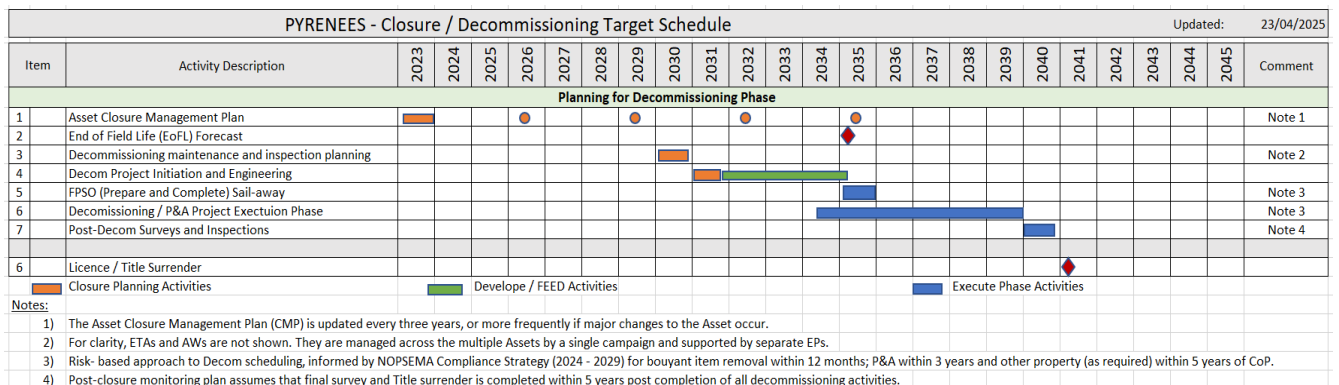


Figure 7-3: Pyrenees decommissioning target schedule

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

7.7.6 Title relinquishment

Woodside proposes to collect the necessary data to inform future title surrender requirements through environmental monitoring campaigns. The environmental monitoring campaigns will assess any impact from emissions and discharges over the life of the activity. The results of the environmental monitoring will be assessed in a future subsea decommissioning EP and used to inform future title surrender requirements.

The final decommissioning EP for the Pyrenees field will outline any additional environmental monitoring required at the conclusion of all equipment removal activities. At title relinquishment, Woodside will submit a report to NOPSEMA demonstrating that the requirements of section 270 of the OPGGS Act have been met. This demonstration will consider a range of environmental information, including data collected following the completion of equipment decommissioning activities.

7.8 Organisation structure

The following Woodside organisational structure provides leadership and direction for operation of the Pyrenees Facility and environmental performance:

- the Executive VP Australian Operations reports to the Chief Executive Officer
- the FPSOs and Macedon VP report to the Executive VP
- the Pyrenees Asset Manager reports to the VP FPSOs and Macedon
- the Pyrenees OIM reports to the Asset Manager
- the Reliability & Integrity Manager reports to the VP FPSOs and Macedon
- the functional support teams report to the corresponding Business Unit VP.

Production facilities are supported by a team of environmental professionals who report to the Environment Manager. Facilities are supported by other Woodside functional teams, including:

- HSE – provides specific guidance and access to specialist HSE resources including assistance for governance and training, as well as guidance on Woodside HSE standards.
- Global Wells and Seismic – ensures the safe planning and execution of drilling (note, drilling is excluded from the scope of this EP), completion and work over operations.
- Projects – responsible for the engineering, construction and execution of the projects on operational facilities to ensure ongoing integrity and safe operation. The Closure Planning team and the Decommissioning Delivery team are part of Projects, and this ensures planning and execution of the asset's decommissioning activities are seamless.
- Marine Group – responsible for chartering vessels to support Woodside's offshore production facilities including vessels to aid emergency response.
- Aviation Group – provides personnel transport, material transport, emergency evacuation and search and rescue capabilities.

7.8.1 Roles and responsibilities

As required by Regulation 22(4), this section of the implementation strategy establishes a clear chain of command that sets out the roles and responsibilities of personnel in relation to the implementation, management and review of the EP, ranging from senior management to operational personnel.

Key roles and responsibilities for Woodside and contractor personnel in relation to the implementation, management and review of this EP are described below in Table 7-4. Roles and responsibilities for hydrocarbon spill preparation and response are outlined in Appendix I and the Woodside Incident Management Handbook. Roles and responsibilities for facility emergency response are outlined in the Pyrenees Facility Safety Case and are consistent with the Pyrenees ERP.

It is the responsibility of all Woodside employees and contractors to apply the Woodside Environment and Biodiversity Policy in their areas of responsibility.

Table 7-4: Roles and responsibilities

Title (role)	Environmental responsibilities
All personnel	
All facility based personnel and onshore support personnel	• Understand the Woodside standards and procedures that apply to their area of work. • Understand the environmental risks and control measures that apply to their area of work. • Carry out assigned activities in accordance with approved procedures and the EP. • Follow instructions from relevant supervisor with respect to environmental protection. • Cease operations which are deemed to present an unacceptable risk to the environment. • Participate in environmental assurance activities and inspections as required. • Prompt reporting of environmental hazards/incidents to their supervisor and assist in event investigation.
Office-based personnel	
Pyrenees Asset Manager	• Implement systems, practices and procedures. • Be accountable for ensuring all necessary regulatory approvals are in place to operate. • Approve (decide on) the content to be contained in the EP. • Be accountable for managing the asset throughout its operations in accordance with legislative/regulatory requirements (including this EP) and WMS requirements. • Be responsible for continuous improvement of operations of the facility, including environmental performance. • Decide on technical decisions where required based on assessed current level of risk. • Be accountable for aspects of integrity management. • Support monitoring, auditing, non-conformance and emergency response. • Decide on technical decisions where required based on assessed current level of risk. • Be accountable for incident notification, reporting and investigation in line with regulatory requirements, the WMS and EP requirements. • Communicate changes relevant to the EP to the Production Environment team. • Be accountable for conformance to production Operations processes.
Maintenance Engineering Team Leader	• Implement systems, practices and procedures. • Be responsible for safeguarding process safety with respect to the asset. • Ensure technical integrity risks are identified, managed and reduced to ALARP. • Recommend technical decisions where required based on assessed current level of risk.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Title (role)	Environmental responsibilities
Integrity Authorities (Technical Integrity Custodians, Technical Authorities and Engineering Authorities)	• Implement systems, practices and procedures. • Agree technical integrity decision based on assessed current level of risk when discipline owner. • Undertake process safety responsibilities as defined under the Woodside process safety framework.
Production Environment Manager	• Implement systems, practices and procedures. • Facilitate operations environmental approval documentation and timely submission in accordance with regulatory requirements. • Develop and maintain appropriate Production environmental processes and procedures. • Support monitoring, auditing, non-conformance and emergency response. • Monitor and communicate to internal stakeholders all relevant changes to legislation, policies, regulator organisation that may impact the EP or business. • Facilitate review of the EP, including five-yearly revision and in relation to any technical decisions or proposed changes to operations.
Production Environment Adviser	• Implement systems, practices and procedures. • Manage change relevant to the EP in accordance with the Regulations and the EP. • Ensure resourcing, training and competencies. • Liaise with Woodside contractors and Subsea Support Bessel crew to communicate and ensure their understanding of IMMR related requirements under this EP. • Support monitoring, auditing, non-conformance and emergency response. • Ensure environmental monitoring, offshore inspections, and reporting is undertaken as per the requirements of this EP. • Coordinate and monitor closeout of corrective actions. • Ensure environmental inspections/audits are undertaken as per the requirements of the EP. • Ensure environmental incident reporting meets regulatory requirements (as described within the EP) and WMS requirements.
Subsea and Pipelines (IMMR) Activity Manager	• Implement systems, practices and procedures. • Ensure IMMR process undertaken in line with EP commitments. • Manage IMMR change requests for the activity and notify the Production Environment Adviser of any scope changes in a timely manner. • Be responsible for governance of IMMR related activities for subsea support vessels. • Ensure resourcing, training and competencies. • Provide sufficient resources to implement the EP requirements. • Support monitoring, auditing, non-conformance and emergency response. • Monitor and close out corrective actions raised from IMMR environmental inspections/audits or incidents.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Title (role)	Environmental responsibilities
Corporate Affairs Adviser	• Implement systems, practices and procedures. • Be the relevant person identification and consultation. • Report on consultation. • Perform ongoing relevant person liaison as required.
Woodside Marine Services Function	• Be responsible for pre-charter assurance for all contracted vessels. • Conduct ongoing operational assurance of vessels contracted through Woodside Marine, to confirm vessels operate in compliance with relevant legislation, rules and Woodside Marine Charterers Instructions in order to be able to meet safety, navigation, operational and emergency response requirements.
Contractor Sponsors	• Implement systems, practices and procedures. • Ensure implementation of EP for the contractor's scope of work. • Ensure resourcing, training and competencies. • Ensure contractors have adequate environmental capability in order to execute their respective scopes of work. • Review contractor environmental performance as required.
Offshore-based personnel	
Offshore Installation Manager	• Implement systems, practices and procedures. • Be in charge of the facility and the field. • Be accountable for implementation of the EP at the facility. • Ensure offshore personnel comply with regulatory/legislative requirements (including the EP) and the WMS. • Be responsible for Area Operations compliance with technical integrity requirements, including management of change process, permit to work process and Manual of Permitted Operations and process safety requirements. • Be the single point responsible person for the coordination of simultaneous activities. • Implement relevant offshore environment initiatives and review environmental performance to drive continuous improvement. • Ensure effective communication with workforce on environmental performance. • Ensure incidents are reported and investigated in line with WMS and EP requirements, with appropriate actions initiated and closed out. • Decide on technical decisions where required based on assessed current level of risk. • Communicate changes relevant to the EP to the Production Environment team. • Ensure resourcing, training and competencies. • Be accountable for the performance and development of direct reports, ensuring operator capability and competency across all shifts and ensuring the skill requirements of the Production division are being met. • Support monitoring, auditing, non-conformance and emergency response.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Title (role)	Environmental responsibilities
	• Lead response efforts (as Incident Controller) in managing emergency or crisis scenarios. • Ensure exercises and drills are conducted in a manner to assure the facility's ability to respond effectively to an emergency.
Operations Supervisor/ Operations Team Leader/ Maintenance Team Leader/ Shift Supervisor	• Implement systems, practices and procedures. • Be accountable for the day-to-day operations of the facility including effective shift handover; completion and logging of operator routine. • Be responsible for operations shift compliance to all legislative and regulatory requirements as defined in the EP. • Be responsible for permitting and isolation for all frontline work activities. • Be responsible for leading and coordinating a multi-disciplined team performing specific duties required to support the facility, including helicopter operations, vessel movements and consumable controls. • Support monitoring, auditing, non-conformance and emergency response. • Be responsible for following emergency response protocols in accordance with the emergency response procedure and fulfilling allocated emergency response roles.
Operations and Maintenance Technicians	• Implement systems, practices and procedures • Be responsible for all daily operations on the facility within their operational control. • Undertake daily operational and maintenance tasks in accordance with approved standards and procedures to ensure compliance with the EP. • Manage day-to-day environmental risks through use of Permit to Work and other risk management tools. • Identify opportunities for continuous improvement and communicate these to their Supervisor. • Complete training requirements to maintain competence and knowledge in operating and maintaining equipment, and manage environmental risks and impacts. • Participate in environmental assurance activities and inspections as required. • Report all environmental hazards and incidents and assist in investigations.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Title (role)	Environmental responsibilities
Vessel-based personnel	
Vessel Master of Support Vessel (Facility and Subsea Support Vessels)	• Implement systems, practices and procedures. • Understand and manage HSE aspects of the vessel, including environmental requirements. • Communicate with OIM as required regarding potential environmental risks applicable to vessel activities. • Ensure vessel meets quarantine requirements. • Support monitoring, auditing, non-conformance and emergency response. • Notify AMSA and other authorities of any incidents as per maritime requirements. • Provide, as requested by Woodside, copies of documents, records, reports and certifications (i.e. fuel use, ballast exchanges, waste logs, etc.) in a timely manner to assist in compliance reporting. • Ensure the vessel's Emergency Response team has sufficient training to implement the vessel's SOPEP. • Ensure all emergency and SOPEP drills are conducted. • Ensure that vessel procedures are followed in the event of an emergency or spill. • Immediately notify the Woodside Representative of any environmental incidents.
Subsea and Pipelines Site Woodside Representative	• Implement systems, practices and procedures. • Ensure relevant management measures in this EP are implemented on the subsea support vessel. • Ensure resourcing, training and competencies. • Ensure Subsea Support Vessel induction attendance is recorded. • Support monitoring, auditing, non-conformance and emergency response. • Ensure periodic environmental inspections are completed. • Ensure environmental incidents or breaches of EPOs, EPSs or MCs are reported in accordance with Woodside and regulatory requirements.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

7.9 Unexpected Finds Procedure

In the event of the discovery of what appears to be UCH (defined as “*any trace of human existence that has a cultural, historical or archaeological character and is located under water*”), the following Unexpected Finds Procedure will apply:

- All activities with the potential to impact the suspected UCH must cease immediately. Retain all records of the potential UCH, including any imagery, description and location.
- Person who discovers the heritage object must inform the Activity Supervisor.
- Activity Supervisor must notify Woodside’s Global Heritage Manager.

Woodside will specify an appropriate buffer around the potential UCH, taking into consideration the nature and scale of the potential UCH and the activities to be managed.

No seabed disturbance may occur within the buffer area around the potential UCH until approved by Woodside’s Global Heritage Manager.

Woodside’s Global Heritage Manager must notify a qualified underwater archaeologist and provide all available documentation of the potential UCH.

If the potential UCH appears to be Aboriginal underwater cultural heritage, Woodside’s Global Heritage Manager must notify the appropriate Traditional Custodians to determine whether it is a heritage site and if so, how the site should be managed.

If the potential UCH appears to be a shipwreck or aircraft that has been wrecked for more than 75 years or is otherwise reportable under section 40 of the *Underwater Cultural Heritage Act*, Woodside’s Global Heritage Manager must notify the Minister responsible for the *Underwater Cultural Heritage Act*, the DCCEEW underwater archaeology section through the Australasian UCH database, and the Western Australian Museum.

If the suspected heritage object includes human remains, Woodside’s Global Heritage Manager must also notify:

- the Australian Federal Police (phone: 131 444) of the location of the remains, that the remains are likely to be historic or Aboriginal in origin, and that it may be appropriate that Traditional Custodians and a maritime archaeologist are present during any handling of the remains
- the Office of the Minister for the Environment and Water in accordance with section 20 of the *Aboriginal and Torres Strait Islander Heritage Protection Act*.

Work must not recommence in the vicinity of the potential heritage object until Woodside’s Principal Heritage Adviser provides written approval. Woodside’s Global Heritage Manager must only provide written approval once agreed management measures are implemented consistent with approvals and legislation or where the potential UCH is confirmed to not be UCH.

7.10 Training and competency

As required by Regulation 22(5), this section of the implementation strategy includes measures that ensure all personnel associated with operating the facility are aware of their EP-related responsibilities, and that all relevant personnel have appropriate competencies and training.

Environmental training is undertaken to ensure employees and contractors whose work may impact on the environment have the necessary awareness, knowledge and competence appropriate for their role.

Different levels of training are undertaken in relation to managing environmental risks and impacts for the production offshore facilities and associated subsea support vessel based IMMR activities, as follows:

- inductions for offshore facility workers and visitors
- operations competency framework training
- permit to work training
- production environmental leadership training and environment awareness training
- emergency and hydrocarbon spill response training

- inductions for subsea IMMR (vessel-based) personnel.

Records for Woodside production personnel, in relation to the above-listed training, are maintained in Woodside's learning management system. Contractor training records are also maintained.

Competence of operations personnel can be reviewed via online dashboards.

7.10.1 Inductions for offshore facility workers and visitors

A comprehensive induction process is in place for personnel working on or visiting Woodside's offshore production facilities. The induction process is designed to equip personnel with the HSE awareness and skills necessary for them to manage their own safety and environmental performance and contribute to others working around them. The induction process includes:

Common production induction – All employees and contractors who have not accessed a production facility within twelve months are required to undertake this induction prior to mobilisation. It includes Woodside's values, HSE and Process Safety, continuous improvement, risk management and Permit to Work.

Facility-specific induction – All employees and contractors that have not accessed the production facility within six months are required to undertake this induction on arrival at the facility. This induction covers the HSE and emergency response issues specific to each facility. For environment, this induction covers the facility EP, prevention of spills, waste management, fauna interactions, hazard identification and risk assessment, and incident reporting.

Production offshore environmental leadership training – Key operations leadership roles (as specified within the Operations Competency Framework) are required to complete this competency on commencement of the new role and three yearly thereafter. The training covers Woodside's policies and standards, environmental legislative requirements, the EP, key environmental risk and impacts, environmental reporting, environmental management tools (e.g. improvement planning, compliance reviews and audits), hydrocarbon spill response and environmental accountabilities.

Production offshore environmental awareness training – All new offshore operational personnel are required to undertake this online training on commencement of the new role and two-yearly thereafter. This training covers environmental legislative requirements, the facility EP, key environmental hazards and control measures (including waste management, spill prevention, chemical storage, wildlife interactions), environmental management tools, hazard and incident reporting, spill response, and environmental responsibilities.

7.10.2 Operations competency framework training

The Operations Competency Guideline defines a framework to make sure all personnel on operating facilities are competent to perform their work and that competency is managed. By doing this, the potential for unplanned (accident/incident) type events that could result in environmental impact is minimised.

Operational Area Licence to Operate (LTO) roles are those roles related to oil and gas processing, equipment maintenance, marine regulations, emergency response and any other roles involved with safeguarding the facility integrity, including all roles where high-risk work licences are required. Additionally, roles mandated by Woodside such as Medic and Helicopter Landing Officer are included in the LTO roles process.

The requisite competency and training for each LTO role has been defined. Competencies for these LTO roles are stipulated by the governance group for each respective position and are based on the relevant Australian or International standards which apply. In cases where no Australian or International standards are available or applicable, training is based on the relevant Woodside Standard as determined by the respective governance group.

Contractors working on Woodside facilities are required to verify the competency of their personnel through the contractor's own verification systems. Additionally, contractor personnel working on Woodside facilities are required to be registered in Woodside's Contractor Verification Service beforehand. Personnel registered in Contractor Verification Service have had their skills and qualifications independently verified on behalf of Woodside thereby confirming that contractor personnel hold the required competencies before mobilisation to the facility.

The LTO Roles Report (available online on the Woodside Competency Reporting Dashboard on the Production Academy Intranet page) provides the conformance status of the facility against the LTO roles requirements.

7.10.3 Permit to work system training

The permit to work system (see Section 7.3) is a key element in ensuring that all necessary steps are taken to ensure the safety of personnel, protection of the environment and technical integrity of the facility. The permit to work system takes a risk-based approach to all activities, thus tasks with higher levels of risk are subjected to greater scrutiny and control.

All members of the workforce that are required to work with a Permit to Work receive training commensurate with the level of authority and responsibility they hold in the permit to work system.

7.10.4 Emergency and hydrocarbon spill response training

All operations personnel involved in crisis and emergency management are required to commit to ongoing training, process improvement and participation in emergency and crisis response (both real and simulated), including emergency drills specific to potential incidents at the facility. Training includes task specific training and role based training and 'on the job' experience (i.e. participation in crisis or emergency management exercises). Roles-based training is further described in Section 7.16.

An overview of Woodside's hydrocarbon spill response training and competency requirements are provided in dashboards for key responder roles. The roles are consistent with Woodside's crisis and emergency management incident control structure.

Woodside Hydrocarbon Spill Preparedness Adviser(s) are responsible for maintaining hydrocarbon spill preparedness competency. This includes the identification and development of approved competency and non-competency based courses, identification of relevant personnel required to undertake training and ensuring training records are maintained. Minimum Woodside capabilities will continue to be identified and documented.

7.10.5 Subsea IMMR activity environmental awareness

At the beginning of and during a new subsea IMMR activity, the Subsea Support Vessel crew including contractor crew, Woodside representatives and other relevant personnel are required to undertake a vessel induction before commencing work. This induction covers HSE requirements for the vessel and IMMR activities, and as required environmental information specific to the activity location. The induction may cover the following environmental information:

- adherence to standards and procedures, and the use of job safety analysis and permit to work hazard identification and management process
- spill management including prevention, response and clean-up, location of spill kits and reporting requirements
- waste management requirements and location of bins
- reporting of marine fauna, location of forms and charts
- chemical management requirements.

All personnel who undertake the project induction are required to sign an attendance sheet, which is retained.

Regular HSE meetings are held on subsea support vessels with crew. During these meetings, any environmental incidents are reviewed, and environmental awareness material presented.

7.11 Monitoring, auditing, management of non-conformance and review

Regulation 22(6) states that the implementation strategy is to provide for the monitoring, audit, management of non-conformance and review of operator's environmental performance and the implementation strategy itself.

This section of the EP outlines the measures undertaken by Woodside to regularly monitor the management of environmental risks and impacts of the facility against the EPOs, EPSs and MC, with a view to continuous

improvement of environmental performance. The effectiveness of the implementation strategy is also reviewed periodically as part of the monitoring and assurance process.

7.11.1 Monitoring

Woodside and its Contractors undertake a program of periodic monitoring during the Petroleum Activity. This information will be collected using the tools and systems outlined below based on the EPOs, controls, EPSs and MC in this EP. Environmental aspects are integrated into Woodside-wide functional and asset review and assurance processes, which deliver effective governance. This integration of environmental controls into appropriate parent systems and processes includes process safety management (Section 7.5.2), contractor management (Section 7.5) and marine assurance (Section 7.11.4.4), and provides multi-faceted assurance of routine implementation.

The tools and systems collect, as a minimum, the data (evidence) referred to in the MCs in Section 6.7 and Section 6.8. The collection of this data will form part of the record of compliance maintained by Woodside and form the basis for demonstrating that the EPOs and EPSs are met. Compliance is summarised in a series of routine reporting documents (refer to Section 7.14.3.2).

The following tools and systems to monitor environmental performance, (including collection of evidence of compliance with controls), where relevant, include:

- environmental emissions/discharge reporting systems that record volumes of planned discharges to ocean and atmosphere, e.g. via the Production Allocation System and process historian database – a summary of emissions and discharges monitoring that is undertaken during the Petroleum Activity is provided within Table 7-5
- routine internal reporting (as described in Section 7.14.2) and routine external annual compliance reporting (as described in Section 7.14.3)
- internal auditing and assurance program (as described in Section 7.11.4).

Collectively, these systems/tools involve collection of evidence of compliance with controls. Throughout the Petroleum Activity, Woodside continues to identify new source-based risks and impacts through the monitoring and auditing systems and tools described above and within Section 7.11.

Other examples of assurance tasks implemented through the EP include (as an example):

- start of shift operator walk arounds
- permit to work hazard, risk management checklist, area sign-on, and permit audits
- ongoing maintenance performance assurance (e.g. conformance dashboard)
- management system performance audits reviews (e.g. management system performance standards) (Section 7.11.4)
- data gathering and governance dashboard presentations (e.g. Woodside Integrated Risk and Compliance System).

7.11.2 Management of knowledge

Review of knowledge relevant to the existing environment is undertaken in order to identify changes relating to the understanding of the environment or legislation that supports the risk and impact assessments for EPs (in-force and in-preparation). Relevant knowledge is defined as:

- environmental science supporting the description of the existing environment
- socio-cultural environment and relevant persons information
- environmental legislation.

The frequency and documentation of reviews, communication of relevant new knowledge and consideration of management of change are documented in the WMS EP Guideline.

Under the Joint Industry Operational and Scientific Monitoring Framework, a Marine Environment Baseline Database has been developed to capture key baseline data within each titleholder's monitoring priority locations. The database is reviewed on an annual basis to determine the adequacy of the data in context of the joint industry operational monitoring programs and scientific monitoring programs.

7.11.3 Management of newly identified impacts and risks

New sources of receptor based impacts and risks identified through monitoring and auditing systems and tools and the Woodside Environment Knowledge Management System are assessed using the management of change and revision process (Section 7.6).

Table 7-5: Summary of emissions and discharges monitoring for the Petroleum Activity

Category	Parameter to be monitored/reported	Monitoring frequency	Monitoring equipment/methodology	EP section
Planned emissions				
Atmospheric emissions	Greenhouse, energy and criteria pollutants	Normally continuous process metering/annual reporting	NGER Scheme and NPI reporting estimation methods (e.g. fuel/flare flow meters, throughput meters, process estimation)	6.7.5
	Fuel gas and flare emissions	Normally continuous process metering/monthly reviews	Fuel and flare flowmeters inform GHG and atmospheric emissions – tracked against optimisation targets	6.7.5
Planned discharges				
Discharge of subsea control fluids during well actuations	Subsea control fluid consumption	Normally continuous process indication/monthly review	Subsea control fluid consumption surveillance. Process indication for gross leaks/ruptures	6.7.7
Discharge of hydrocarbons and chemicals during subsea IMMR activities	Volumes of hydrocarbons and chemicals released subsea	As required, during IMMR activities (Petroleum Activity specific)	Estimates based on known volumes pumped and ROV observation	6.7.7
Discharge of PW	OIW concentration of discharged PW	Normally continuous process metering/monthly review	Normally continuous process metering/monthly review	6.7.6
		Up to six-hourly during non-routine operations	Manual sampling	
	PW chemical character	Annually	PW chemical characterisation	
	PW ecotoxicity	Three yearly	PW ecotoxicity testing	
Discharge of cooling water	Total residual chlorine	Periodically	Total residual chlorine testing	6.7.6
Waste recycling and disposal	Quantities of solid and liquid wastes disposed of onshore	Ongoing	Facility waste manifest	6.8.1
Unplanned emissions and discharges				
Unplanned emissions and discharges	Nature of release	As required	HSE Event Reporting System (First Priority)	6.8

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

7.11.4 Auditing

7.11.4.1 Operations assurance

To provide confidence, based on evidence commensurate with risk, that business objectives are met, business activities are performed and risks are managed, assurance is performed as described in the Provide Assurance Procedure and the Provide Assurance Guideline. The guideline aims to explain how the Operations Division Assurance Team implement WMS Assurance requirements, while concurrently satisfying the Operations Division's specific objectives.

Operations Assurance Assignments are contained within the Operations Division Integrated Assurance Assignment Plan.

Environmental assurance activities are conducted on a regular basis to help:

- verify environmental risks and potential impacts are being managed in accordance with the EPOs and EPSs detailed in this EP
- monitor, review and evaluate the effectiveness of the EPOs and EPSs detailed in this EP
- verify the effectiveness of the EP implementation strategy
- identify potential non-conformances.

The outputs of the assurance process are corrective actions that feed the improvement process. Therefore, assurance is a key driver of continuous improvement.

7.11.4.2 Annual offshore inspection/desktop review

An inspection/review of the facility is undertaken every calendar year by the Production Environment Team, via either an offshore inspection or desktop review. Selected risk areas/activities are inspected to review environmental performance against the EPOs and EPSs, and verify that control measures are effective in reducing the environmental risks and impacts of the Petroleum Activity to an ALARP and acceptable level.

The inspection/review also includes review of conformance with selected aspects of the EP implementation strategy. All risk sources/activities applicable to the offshore facility will be reviewed over a three-year rolling period. Records of findings and records of close-out of any corrective or improvement actions are maintained (closeout is tracked in Woodside's action tracking system).

7.11.4.3 Subsea support vessel environment inspection

Environmental inspections of subsea support vessels are undertaken. This involves annual and ongoing inspections of subsea support vessels to ensure that any subsea support vessel is compliant with both the EP and the approved Contractor Management system. Inspections are conducted in line with the Subsea and Pipelines contractor implementation package, however, may include additional requirements for project specific inspection items.

Vessel inspection findings are captured within a closeout report. Actions arising from subsea support vessel environmental audits are added to the relevant Environmental Commitments and Actions Register within the Subsea Construction, IMMR Environment Project Register. This Environmental Commitments and Actions Register is used to track support vessel compliance with EP commitments, including any findings and corrective actions.

7.11.4.4 Marine assurance

Woodside's marine assurance is managed by the Marine Assurance team within the Operations Function in accordance with Woodside's Marine Offshore Vessel Assurance Standard. The Woodside process is based on industry standards and consideration of guidelines and recommendations from recognised industry organisations such as OCIMF and International Maritime Contractors Association.

Woodside's marine offshore assurance process is mandatory for all vessels (other than tankers and FPSO vessels) that are chartered directly by or on behalf of Woodside, including for short term hires (i.e. <three months in duration). It defines applicable marine offshore assurance activities, ensuring all vessel are seaworthy and meet the requirements for a defined scope of work.

The process is multi-faceted and encompasses:

- Offshore Vessel Safety Management System assessment (OVMSA)
- DP system verification
- vessel inspections.

Vessel inspections are used to verify compliance with the company's Safety Management System, the overall condition of the vessel and the status of planned maintenance system onboard. A Woodside Marine Assurance Specialist will conduct a risk assessment on each vessel to determine the level of assurance applied and the type of vessel inspection required.

Methods of vessel inspection may include, and are not limited to:

- Woodside Marine Vessel Inspection
- OCIMF Offshore Vessel Inspection Database (OVID) Inspection
- OCIMF Ship Inspection Report (SIRE)
- International Maritime Contractors Association Common Marine Inspection Document Inspection
- Marine Warranty Survey.

The Woodside Marine Assurance team will issue the vessel a statement of approval upon completion of the marine assurance process if any identified concerns are addressed appropriately and any conditions imposed are managed.

Where an OVID vessel inspection and/or OVMSA Verification Review is not available and all reasonable efforts based on time and resource availability to complete an OVID inspection and/or OVMSA Verification Review are performed (i.e. short-term vessel hire), the Marine Assurance Specialist Offshore may approve the use of an alternate means of inspection (Section 17.11.4.5).

Environmental requirements specific to support vessel contractors are communicated via Woodside marine charterers instructions. This document provides the Master of a vessel on hire to Woodside with a clearly defined set of requirements and procedures for operating the vessel in the vicinity of the Woodside's operating facilities. This includes the management of environmental risks and impacts from the facility. The document includes information on:

- applicable legislation and guidelines
- roles and responsibilities
- marine fauna interaction guidance
- incident reporting requirements.

Environmental requirements specific to subsea support vessels are communicated via the Subsea Environmental Compliance Package. This document outlines mandatory environmental management requirements for subsea support vessels and associated contractors.

7.11.4.5 Risk assessment

Woodside conducts a risk assessment of vessels where either an OVMSA Verification Review and/or an OVID vessel inspection cannot be completed. This is not a regular occurrence and is typically used when the requirements of the assurance process are unable to be met or the processes detailed are not applicable to a proposed vessel(s). The marine vessel risk assessment will be conducted by the Marine Assurance Specialist Superintendent, or the nominated deputy, where the vessel meets the short term hire prerequisites.

The risk assessment is a semi-quantitative method of determining what further assurance process activity, if any, is required to assure a vessel for a particular task or role. The process compares the level of management control a vessel is subject to against the risk factors associated with the Petroleum Activity or role.

Several factors are assessed as part of a vessel risk assessment, including:

- management control factors

- company audit score (i.e. management system)
- vessel HSE incidents
- vessel Port State Control deficiencies
- instances of Port State Control vessel detainment
- years since previous satisfactory vessel inspection
- age of vessel
- contractors' prior experience operating for Woodside.
- activity risk factors:
 - people health and safety risks, a function of the nature of the work and the area of operation
 - environmental risks, a function of environmental sensitivity, Petroleum Activity type and magnitude of potential environment damage (e.g. largest credible oil spill scenario)
 - value risk, likely time and cost consequence to Woodside if the vessel becomes unusable
 - reputation risk
 - exposure (i.e. exposure to risk based on duration of project)
 - industrial relations risk.

The acceptability of the vessel or requirement for further vessel inspections or audits is based on the ratio of vessel score to Petroleum Activity risk. If the vessel management control is not deemed to appropriately manage activity risk, a satisfactory company audit and/or vessel inspection may be required before awarding work.

The risk assessment is valid for the period a vessel is on hire and for the defined scope of work.

7.11.5 Management of non-conformance

Woodside employees and Contractors are required to internally report all environmental incidents and hazards, including potential non-conformances with EPOs and EPSs in this EP.

The HSE Event Reporting and Investigation Procedure defines how incidents and hazards are internally reported. Key requirements are set out through the use of an Event Report Form, which includes details of the event, immediate action taken to control the situation, and corrective actions to prevent reoccurrence. An internal online database called First Priority is used for the recording and reporting of these events. Corrective actions are monitored using First Priority and closed out in a timely manner.

Detailed investigations are completed for incidents with an actual impact of A, B or C, and high potential environmental incidents and hazards. The classification, reporting, investigation and actioning of environmental incidents and hazards is undertaken in accordance with the HSE Event Reporting and Investigation Procedure supported by the HSE Event Reporting Guideline. Event bulletins may be used for communication of learnings from significant events.

Non-conformances with EPOs and EPSs are also internally reported and investigated in accordance with Regulatory Compliance Management Procedure, supported by the Regulatory Compliance Management Guideline.

External regulatory reporting requirements for this Petroleum Activity are outlined in Section 7.14 of this EP.

7.12 Review

7.12.1 Environmental risk review

Woodside PetDW risk management processes include risk review, are described in Sections 7.5 and 7.12 and are applied on a day-to-day basis. The Facility Environmental Impacts and Risk Register must be reviewed and updated every five years.

Monitoring (Section 7.11.1), assurance (Section 7.11.4) and review (Section 7.12) are also used to identify potential new information that may arise during the Petroleum Activity and ensure that performance

outcomes and standards are being met and EP environmental control measures are effective. While conducting these activities, qualified, experienced environment advisors, in consultation with experienced Operational and/or Engineering personnel use their professional judgement, to identify potential new control measures that have potential to improve environmental outcomes or reduce risk. As various monitoring, assurance and review processes are used, there is not an overarching procedure/checklist that is suitable to contain a prompt for consideration of new environmental controls.

In addition, Woodside's risk management practices and processes are systematically applied on an ongoing basis to activities provided for within the EP (as summarised within Section 7.5). Via these processes and practices, new risk controls for individual planned and unplanned events may be selected and implemented (proportional to risk levels). When such risk controls are identified by environmental advisors as being relevant to the overarching EP sources of risk, these may also be added as new EP control measures. Any new or improved EP environmental controls or specific measures (that have the potential to improve environmental outcomes or reduce risk), can be tracked within the production EP updates register for incorporation into the EP at its next revision. The EP may be internally revised to reflect these changes without resubmission.

Where review processes identify new or improved controls relevant to environmental risks identified in this EP (that have the potential to improve environmental outcomes or reduce risk), the EP may be internally revised to reflect these changes without resubmission.

7.12.2 Learning and knowledge sharing

Learning and knowledge sharing occurs via a number of different methods, including for example:

- operations learnings meetings
- event investigations
- event bulletins
- engineering and technical authorities discipline communications and sharing.

7.12.3 Continuous improvement

Continuous improvement projects to improve production or environmental performance that involve refurbishment, modification or major maintenance on the facility are typically managed by Brownfields Engineering and required to follow appraise and develop management procedures. The procedure requires that all projects be managed in accordance with the Opportunity Management Framework, which supports the progressive maturation of an opportunity through value creation in the Assess and Select phases and the maintenance of value in the Develop and Execute phases.

To support the accountable executive to make a decision on whether a continuous improvement project should proceed to the next phase in the Opportunity Management Framework, it is sometimes necessary to conduct a trial of the modification to determine the outcomes that can be expected if the modification is implemented. Due to prioritisation of resources, the phased progress of opportunities, competition between different solutions and long-term strategic and financial considerations, it is not possible to set quantitative success criteria to determine whether a modification will be implemented based on the results of trials. Instead, the results of a trial are used to inform a decision on whether to progress the continuous improvement project to the next phase in the Opportunity Management Framework. Decisions are typically made with two key considerations; whether the business is ready to proceed which has a technical/functional focus and whether there is a business case for progressing to the next phase. The business case may consider the ALARP position for the continuous improvement project, if relevant.

7.13 Record keeping

Compliance records (outlined in MCs in Section 6) are maintained. Record keeping is in accordance with Regulation 22(7) that addresses maintaining records of emissions and discharges such that the records can be used to assess whether EPOs and EPSs are being met (refer to Section 7.11.1 and Table 7-5 for a summary of records that are retained).

7.14 Reporting

7.14.1 Overview

To meet the EPOs and EPSs outlined in this EP, Woodside undertakes reporting at a number of levels. These reporting arrangements are outlined below.

7.14.2 Routine reporting (internal)

7.14.2.1 Daily reports

The following daily reports, containing environmental performance information are issued:

- Pan-Woodside Daily Production Report – The report includes facility performance information on production and a log of any HSE events.
- Subsea support vessel Daily Progress Report(s) – During subsea IMMR activities, daily reports are issued by the Woodside Site Representative. The reports provide performance information on HSE events, diesel use, together with equipment information, current and planned work activities.

7.14.2.2 Performance reporting

A number of routine performance reports are developed in support of the facility operational activities. These reports cover HSE, production and process safety performance. Information included in these reports, relevant to the EP, includes:

- summary of environment incidents
- current and planned work activities, significant events (e.g. shutdowns, failures)
- integrity status and process safety metrics
- status of subsea IMMR activities.

7.14.3 Routine reporting (external)

7.14.3.1 Cetacean and whale shark sightings reporting

In accordance with EPBC Act approval conditions for the activity (refer Section 1.10.2), Woodside will keep a record of any cetacean and whale shark sightings for the life of this EP. A sightings report will be submitted to the Australian Antarctic Division annually with the reporting period being by calendar year (see also Table 7-6).

7.14.3.2 Environmental performance review and reporting

In accordance with applicable environmental legislation for the activity, Woodside is required to report information on environmental performance to the appropriate regulator.

Routine regulatory reporting requirements are summarised in Table 7-6. The requirements include that Woodside will develop and submit an annual Environmental Performance Report to NOPSEMA, with the first report submitted within 12 months of the commencement of activities covered by this EP (as per the requirements of Regulation 22(7), i.e. by 30 June the following year).

Table 7-6: Routine external reporting requirements

Report	Recipient	Frequency	Content
Monthly Recordable Incident Report	NOPSEMA	Monthly, by 15 of each month	As required by Regulation 50, details of recordable incidents that have occurred under the EP for the previous month. Refer to Section 7.14.6 for more detail.
Annual EP Performance Report	NOPSEMA	Annual, by 30 June of the year following reporting period	As required by Regulation 22(2) and 26C the report will report compliance with the EPOs and EPSs outlined in Section 6 of this EP. The reporting period is 1 January to 31 December each year.
Regulation 54 start or end of activity notification form	NOPSEMA	At least 10 days before an activity (or stage of an activity) commences; and within 10 days after completion. This includes instances where production temporarily ceases associated with FPSO sail away.	As required by Regulation 54, Woodside must notify NOPSEMA that an activity (or stage of an activity) is to commence at least 10 days before the activity commences; and within 10 days after completion.
NPI Report	DCCEEW	Annual, by 30 September each year	Summary of the emissions to land, air and water including those from the facility. Reporting period 1 July to 30 June each year.
NGER Scheme	Clean Energy Regulator	Annual, by 31 October each year	Summary of energy use and GHG emissions, including those from the facility. Reporting period is 1 July to 30 June each year.
Cetacean and whale shark sightings	DCCEEW	Annual, by 31 January each year	Summary of cetacean and whale shark sightings. Reporting period is 1 January to 31 December.

7.14.4 End of the Petroleum Activity notification

In accordance with Regulation 54, Woodside will notify NOPSEMA within ten days of the completion of the Petroleum Activity. The Petroleum Activity is not expected to end within the five-year life of this EP.

7.14.4.1 End of the Environment Plan

The EP will end when Woodside notifies NOPSEMA that the Petroleum Activity has ended, all the obligations identified in this EP have been completed, and NOPSEMA has accepted the notification, in accordance with Regulation 46 of the Environment Regulations. As noted above, the Petroleum Activity is not expected to end within the five-year life of this EP.

7.14.5 Incident reporting (internal)

All Woodside employees and contractors are required to report environmental incidents and non-conformances with this EP. Incidents are reported using an Event Report Form which includes details of the event, immediate action taken to control the situation, and corrective actions to prevent reoccurrence (for further details refer to Section 7.11.5).

7.14.6 Incident reporting (external) – reportable and recordable

Woodside's regulatory reporting requirements are outlined within the Regulator Event Reporting Procedure supported by the Regulator Event Reporting Guideline.

7.14.6.1 Reportable incidents

A reportable incident is defined under Regulation 5 of the Environment Regulations as “*an incident relating to the activity that has caused, or has the potential to cause, moderate to significant environmental damage*”.

A reportable incident for the Petroleum Activity is:

- an incident that has caused environmental damage with a severity level of 3 – Moderate or above (as defined under Woodside's PetDW Risk Table; refer to Section 2.6).

- an incident that has the potential to cause environmental damage with a severity level of 3 – Moderate or above (as defined under Woodside's PetDW Risk Table – refer to Section 2.6).

The environmental risk assessment (Section 6) for the Petroleum Activity identifies those risks with a potential Severity Level of 3 for environment. The incidents that have the potential to cause this level of impact include hydrocarbon loss of containment events to ocean resulting from either subsea infrastructure, loss of well containment or a vessel collision.

Any such incidents represent potential events which would be reportable incidents. Reporting of incidents is undertaken with consideration of NOPSEMA (2014) guidance, stating "*if in doubt, notify NOPSEMA*", and assessed on a case-by-case basis to determine if they trigger a reportable incident as defined in this EP and by the regulations.

Notification

NOPSEMA will be notified of all reportable incidents, according to the requirements of Regulations 47 and 48 of the Environment Regulations. Woodside will:

- orally notify NOPSEMA of all reportable incidents to the regulator as soon as practicable, but within two hours of the incident or of its detection by Woodside
- provide a written record of the reported incident to NOPSEMA, the National Offshore Petroleum Titles Administrator and the Department of the responsible State Minister as soon as practicable after the oral notification of the incident
- complete a written report for all reportable incidents using a format consistent with the NOPSEMA Form FM0929 – Reportable Environment Incident, which must be submitted to NOPSEMA as soon as practicable, but within three days of the incident or of its detection by Woodside
- provide a copy of the written report to National Offshore Petroleum Titles Administrator and the Department of the responsible State Minister within seven days of the written report being provided to NOPSEMA.

In the unlikely event of a spill, Woodside must notify appropriate cultural authorities that may be affected; with the purpose of mitigating potential risks to cultural heritage values in accordance with its Oil Pollution First Strike Plan (see Appendix I).

7.14.6.2 Recordable incidents

A recordable incident is defined under Regulation 5 of the Environment Regulations as a "*breach of an EPO or EPS, in the EP that applies to the activity, that is not a reportable incident*".

Any breach of the EPOs or EPSs (as presented within Section 6) will be raised as a recordable incident and managed as per the notification and reporting requirements outlined below and internal requirements outlined in Section 7.14.5.

Notification

NOPSEMA will be notified of all recordable incidents, according to the requirements of Regulation 50. Woodside will provide a written record not later than 15 days after the end of the calendar month using a format consistent with the NOPSEMA Form – Recordable Environmental Incident Monthly Summary Report.

7.14.7 Other external reporting requirements and notifications

In addition to the notification and reporting of environmental incidents defined under the Environment Regulations and Woodside requirements, the following incident reporting requirements also apply in the Operational Area if the spill originates from a vessel:

Any oil pollution incidents in Commonwealth Waters will be reported (by the vessel master) to AMSA Rescue Coordination Centre Australia as per Article 8 and Protocol I of MARPOL within two hours via the national emergency 24-hour notification contacts, and a written report within 24 hours of the request by AMSA. (This requirement is included in the Oil Pollution First Strike Plan).

If the ship is at sea, reports are to be made to:

Free call: 1800 641 792

Phone: 08 9430 2100 (Fremantle)

Any spills greater than ten tonnes in Commonwealth Waters must be reported (by the vessel master) to AMSA within one hour. (This requirement is detailed in the Oil Pollution First Strike Plan). Reports are to be made via the national 24-hour emergency notification contacts (AusSAR: Rescue Coordination Centre):

Rescue Coordination Centre Australia (RCC Australia)

Phone: 02 6230 6811

Facsimile: 02 6230 6868

Telex: 62349

Free call: 1800 641 792

AFTN: YSARYCYX.

A hydrocarbon spill incident with potential to significantly impact MNES must be reported to DCCEEW.

If the activity described within this EP results in the unintentional death of or injury to a fauna that constitute MNES (i.e. species listed as threatened or migratory under the EPBC Act), and the activity was not authorised by a permit, DCCEEW should be notified within seven days of becoming aware of the results of the activity:

The Secretary

DCCEW

Hotline: 1800 803 772

Email: protected.species@environment.gov.au

For hydrocarbon spill incidents, other agencies and organisations will be notified as appropriate to the nature and scale of the incident as per procedures and contacts in the Hydrocarbon Spill Australia Regulatory Framework ([Appendix L](#)) and the Oil Pollution First Strike Plan (Appendix I).

A hydrocarbon spill incident with the potential to significantly impact MNES must be reported to DCCEEW.

7.15 Ongoing consultation

In accordance with Regulation 22 (15) of the Environment Regulations, the implementation strategy must provide for appropriate consultation with relevant authorities of the Commonwealth, a State or Territory and other relevant interested persons or organisations.

Woodside's approach to ongoing consultation is that feedback and comments received from relevant persons and additional persons continue to be assessed and responded to, as required, through the life of an EP, including during EP assessment and throughout the duration of the accepted EP, in accordance with the intended outcome of consultation (as set out in Section 5.2).

Woodside proposes to undertake the engagements with directly impacted relevant persons and additional persons listed in Table 7-7. Relevant new information identified during ongoing consultation will be assessed using the EP management of knowledge (refer to Section 7.11.2 and management of change and review process (refer to Section 7.6)).

Woodside hosts community forums at which members are provided updates on Woodside activities on a regular basis (for example community reference group meetings). Representatives who present at those meetings are from community and industry and include Woodside, State Government (for instance relevant regional development commissions), local government, Indigenous groups, industry representative bodies, community and industry organisations.

Relevant persons, additional persons and those who are merely interested in the activities, can otherwise remain up to date on this activity through subscribing to the Woodside website, or by reading the publicly available version of the EP on NOPSEMA's website, where available.

Should consultation feedback be received following EP acceptance that identifies a measure or control that requires implementation or update to meet the intended outcome of consultation (see Section 5.2), Woodside will apply its EP management of knowledge (refer to Section 7.11.2 and management of change (refer to Section 7.6)) processes as appropriate.

Woodside has developed a Program of Ongoing Engagement with Traditional Custodians (Appendix G), directly informed by feedback from Traditional Custodians. It provides a mechanism for ongoing dialogue so that Traditional Custodians can, on an ongoing basis, provide Woodside with feedback relating to the possible consequences of an activity to be carried out under an EP on their functions, interests and activities as they relate to cultural values. The program enables Woodside to manage uncertainty on the impacts and risks to cultural values which may be identified at any time during Woodside's activities via ongoing dialogue with Traditional Custodians.

Any significant changes on this activity will be communicated to relevant persons.

Table 7-7: Ongoing consultation engagements

Report/ information	Recipient	Purpose	Frequency	Content
Program of Ongoing Engagement with Traditional Custodians (Appendix G)	Relevant cultural authorities	Identification, assessment and consideration of cultural values relevant to the Operational Area and EMBA	Ongoing	Assessment of cultural values Any relevant new information on cultural values will be assessed using the EP management of knowledge (Section 7.11.2) and management of change (refer to Section 7.6) processes
Notification (email)	Other relevant persons	Notification of significant change	As required	Notification of significant change
Emails/meetings	Persons or organisations who provide feedback to Woodside post EP submission	Identification, assessment and consideration of feedback, claims and objections	As appropriate	Assessment of claims and objections Relevant new information will be assessed using the EP management of knowledge (Section 7.11.2) and management of change (refer to Section 7.6) processes
Notification (email)	Australasian UCH database Any other stakeholders as required in the Unexpected Finds Procedure (Section 7.9)	Report any unexpected finds of potential Underwater Cultural Heritage	If triggered by Unexpected Finds Procedure (Section 7.9)	Refer to Unexpected Finds Procedure (Section 7.9)
Notification (email)	AHO	Notify AHO where vessels will be in the Operational Area (but outside the PSZ) for >three weeks, no less than four working weeks prior to scheduled activity commencement date	As required	Refer to PS 1.5
Notification (email)	AMSA	AMSA's Response Centre is notified 24 to 48 hours before mobilisation for activities where vessels will be in the Operational Area (but outside the PSZ) for >three weeks	As required	Refer to PS 1.6

7.16 Emergency preparedness and response

7.16.1 Overview

Under Regulation 22(8), the implementation strategy must contain an OPEP and provide for the updating of the OPEP. Regulation 22(9) outlines the requirements for the OPEP which must include adequate arrangements for responding to and monitoring of oil pollution.

A summary of how this EP and supporting documents address the various requirements of Environment Regulations relating to oil pollution response arrangements is shown in Table 7-8.

Table 7-8: Oil pollution preparedness and response overview

Content	Environment Regulations reference	Document/section reference
Details (oil pollution response) control measures that will be used to reduce the impacts and risks of the activity to ALARP and an acceptable level	Regulations 21(5), 21(6), 22(2)	Appendix H
Describes the OPEP	Regulation 22(8)	EP: Section 7.16. Woodside's OPEP has the following components: - Hydrocarbon Spill Australia Regulatory Framework (Appendix L) - Appendix I - Appendix H
Details the arrangements for responding to and monitoring oil pollution (to inform response activities), including control measures	Regulation 22(9)	Appendix H Appendix I
Details the arrangements for updating and testing the oil pollution response arrangements	Regulations 22(8), 22(12), 22(13), 22(14)	EP: Section 7.16.9.1 Appendix H
Details provisions for monitoring impacts to the environment from oil pollution and response activities	Regulation 22(10)	Appendix H
Demonstrates that the response arrangements in the oil pollution emergency plan are consistent with the national system for oil pollution preparedness and response	Regulation 22(11)	Hydrocarbon Spill Australia Regulatory Framework (Appendix L)

7.16.2 Emergency response training

Regulation 22(4) requires that the implementation strategy includes measures to ensure that employees and contractors have the appropriate competencies and training. Woodside has conducted a risk based training needs analysis on positions required for effective emergency response.

Table 7-9: Emergency response training requirements

IMT position	Minimum competency
Corporate Incident Management team (CIMT) Incident Commander and Deputy Incident Commander	- Incident Management team (IMT) Fundamentals Course (internal course) or equivalent - ICS 100/200 - IMO3 or equivalent spill response specialist level with an oil spill response organisation - Participation in Level 2 activation, exercise or skills maintenance
Operations, Planning, Logistics and Finance Sections, and other rostered members of the CIMT	- IMT Fundamentals Course or equivalent - ICS 100/200 - Oil spill theory - Participation in Level 2 activation, exercise or skills maintenance
Environment Unit Leader	- IMT Fundamentals Course - ICS 100/200 - IMO2 or equivalent spill response specialist level with an oil spill response organisation - Participation in Level 2 activation, exercise or skills maintenance
Note on competency/equivalency	
In 2023 Woodside undertook a review of incident and crisis systems, processes and tools to assess whether these were fit-for purpose and has rolled out a change to the Crisis and Emergency Management training and the oil spill response training requirements for CIMT roles. The revised IMT Fundamentals training program aligns with the performance requirements of the PMAOMIR320 – Manage Incident Response Information and PMAOM0R418 – Coordinate Incident Response. In 2023, Woodside took the decision to align its global incident command arrangements to the Incident Command System (ICS). As such all rostered members of the Incident Management Team are trained up to ICS 200. In addition to baseline incident management training, all rostered members of the CIMT undertake a level of hydrocarbon spill response training. Depending upon the role, this may take the form of IMO training or completion of Woodside's internal oil spill training course (OSREC) which involves the completion of two online AMSA Modules (Introduction to National Plan and Incident Management; and Introduction to Oil Spills) and face-to-face training. Woodside Learning Services is responsible for collating and maintaining personnel training records. The Hydrocarbon Spills Preparedness Dashboard reflects the competencies required for each oil spill role (IMT/operational).	

7.16.3 Emergency response preparation

The Corporate Incident Management Team, based in the Emergency Operations Centre at Woodside's head office, is the onshore coordination point for an offshore emergency. The CIMT is staffed by a roster of appropriately skilled personnel available on call 24 hours a day. The CIMT, under the leadership of the CIMT Incident Commander, supports the site-based IMT by providing additional support in areas such as operations, logistics, planning, people management and public information (Corporate Affairs). Woodside's Incident Command structure is included in the Oil Pollution First Strike Plan (Appendix I) and response arrangements are further detailed in the Hydrocarbon Spill Australia Regulatory Framework ([Appendix L](#)). Roles and responsibilities for emergency response are detailed in the Woodside Incident Management Handbook.

Woodside will have a number of ERPs in place relevant to the Petroleum Activity. The ERP provides procedural guidance specific to the asset and location of operations to control, coordinate and respond to an emergency or incident.

In addition, the Emergency Preparedness Management System Performance Standard (M06) is in place to assure that in the event of an incident, the organisation is appropriately prepared for all necessary actions which may be required for the protection of People, Environment, Asset, Reputation and Livelihood.

7.16.4 Initial response to facility incident

The facility is equipped with emergency shutdown systems designed to protect personnel, the facility and the environment from unsafe operating conditions and catastrophic situations.

Emergency shutdown systems are provided as a means of isolation in response to process upsets and facility conditions (including associated flowlines and risers) that could result in loss of hydrocarbon inventories, or to reduce the potential impact from a hydrocarbon loss of containment event on the facility. Provision has been made for process and facility alarm systems to provide early indication of any process upset conditions and potential hazardous events, including fire and gas alarms.

The ERP relevant to the facility and subsea infrastructure covers health, safety, asset and environmental risks (including fire, structural integrity, sabotage, etc.) to ensure the range of occupational, asset and environmental risk exposures from incidents have been considered and plans are in place for their management. The plan provides specific details on the initial response required during events with potential significant environmental consequences such as a hydrocarbon spill, subsea hydrocarbon leak or potential collision.

The Oil Pollution First Strike Plan provides immediate actions required to commence a response. Vessels have SOPEPs in accordance with the requirements of MARPOL 73/78 Annex I. These plans outline responsibilities, specify procedures and identify resources available in the event of a hydrocarbon or chemical spill from vessel activities. The Oil Pollution First Strike Plan is intended to work in conjunction with the SOPEPs, if hydrocarbons are released to the marine environment from a vessel.

Woodside has established EPOs, EPSs and MCs to be used for hydrocarbon spill response during the Petroleum Activity, as detailed in Appendix H.

7.16.5 Oil and other hazardous materials spill

A significant hydrocarbon spill during the Petroleum Activity is unlikely, but should such an event occur, it has the potential to cause serious environmental and reputational damage if not managed properly. The Woodside Hydrocarbon Spill Australia Regulatory Framework document ([Appendix L](#)) is supported by Appendix I, which provides tactical response guidance to the Petroleum Activity.

The Crisis and Emergency Management team manages Woodside's hydrocarbon spill response equipment stockpile. Woodside also maintains a suite of contracts for access to additional specialist response equipment and trained personnel as required via Australian and international spill response organisations and labour supply companies. In the event of a major spill, Woodside will enact first strike response actions, in liaison with the relevant Control Agency, as detailed in the activity-specific Oil Pollution First Strike Plan.

7.16.6 Emergency and spill response

Woodside categorises incidents in relation to response requirements as follows:

- **Level 1 Incident** – A Level 1 incident can be resolved through the use of existing resources, equipment and personnel. A Level 1 incident is contained, controlled and resolved by site/regionally based teams using existing resources and functional support services.
- **Level 2 Incident** – A Level 2 incident is characterised by a response that requires external operational support to manage the incident. It is triggered in the event the capabilities of the tactical level response are exceeded. This support is provided to the activity via the activation of all, or part of, the responsible CIMT.
- **Level 3 Incident** – A Level 3 incident or crisis is identified as a critical event that seriously threatens the organisation's people, the environment, company assets, reputation, or livelihood. At Woodside, the Crisis Management team manages the strategic impacts in order to respond to and recover from the threat to the company (material impacts, litigation, legal and commercial, reputation, etc). The CIMT may also be activated as required to manage the operational incident response requirements.

7.16.7 Source control response capability

7.16.7.1 Source control Incident Management Team structure

Woodside source control incident classification levels are defined in the Woodside Well Control Procedure. Level 1 and Level 2 Source Control events will be managed by GWS without activation of the CIMT.

A Level 3 Source Control incident requires the activation of the CIMT and Crisis Management team. The CIMT organisation includes a Source Control Section Chief position on the core roster reporting to the CIMT Incident Commander. Following activation, the Source Control Section Chief will assemble a Source Control Section comprising multiple functional support teams (FSTs) appropriate to the magnitude and complexity of the situation. The make-up of the Source Control Section may change as the well control incident progresses. An example Source Control Section showing FST structures is shown in Figure 7-4. For clarity, the Source Control Section can be considered a like for like replacement for the Well Control Incident Team, which is referred to in some legacy documentation.

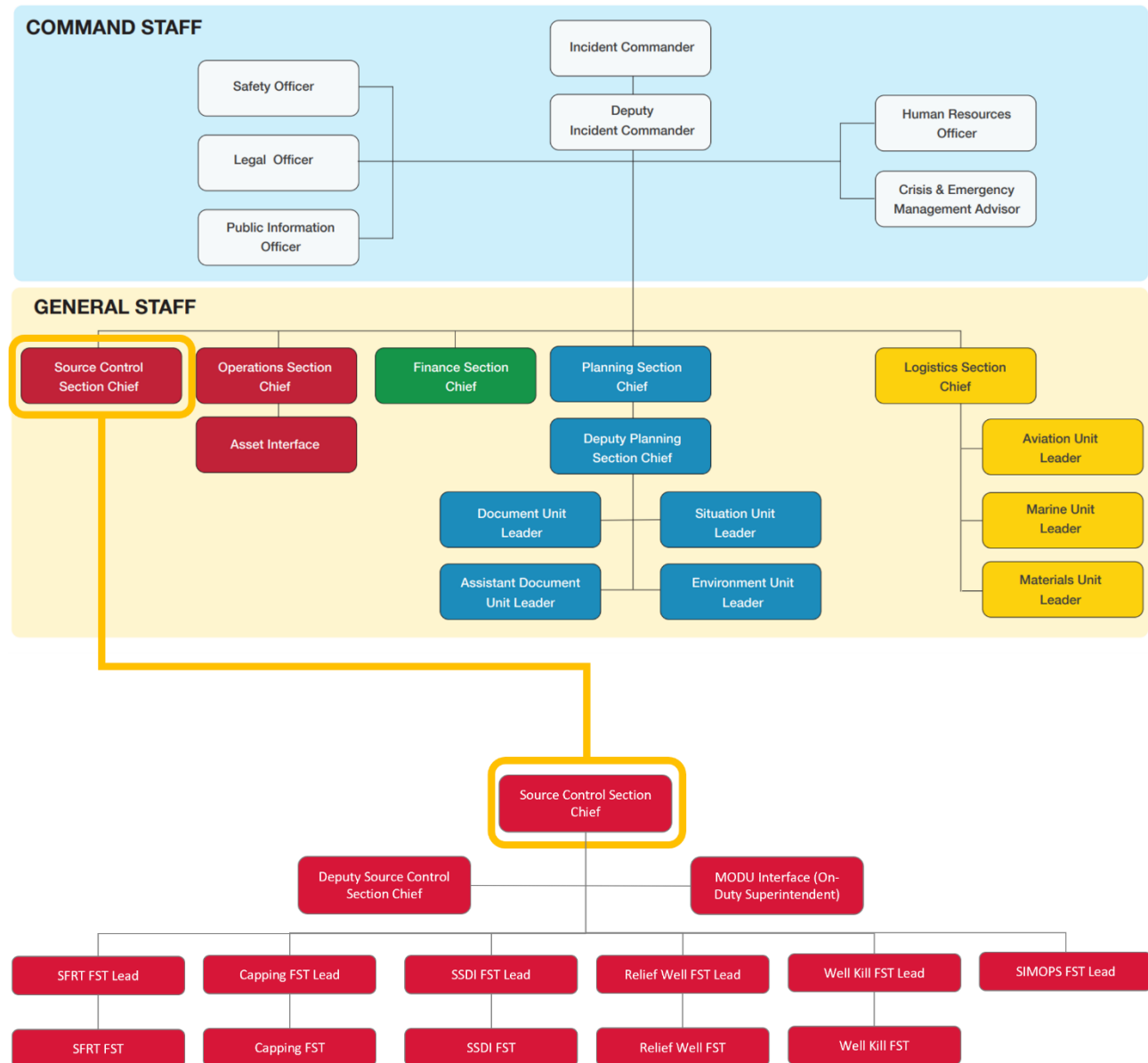


Figure 7-4: Source Control Section organisation structure

For complex source control events, the Source Control Section may be required to be in existence for an extended period. Suitable arrangements must be made to establish shifts and duty roster cycles for Source Control Section members.

Table 7-10: Source Control Section roles and responsibilities

Role	Key responsibilities
Source Control Section Chief (SCSC)	The SCSC, a member of the CIMT, is responsible for managing, implementing, and coordinating operations and plans directly related to source control. The SCSC activates and supervises organizational elements per the Incident Action Plan and directs its execution. The SCSC directs dedicated source control equipment, requests or releases resources, approves group operational plans, approves source control changes to the Incident Action Plan, as necessary, and is aligned with the CIMT Operations Section Chief. The SCSC might have one or more Deputy SCSCs to coordinate Source Control Branch activities.
Deputy Source Control Section Chief	The Deputy Source Control Section Chief (Deputy SCSC) provides support and relief to the SCSC. The Deputy has the same training and expertise as the Section Chief. The Deputy SCSC serves as the delegate of authority for the SCSC when the SCSC is unavailable. The number of Deputy SCSCs varies as a function of proficiency and the support level required.
MODU Interface	The active Woodside Superintendent or delegate fulfills the role of MODU interface. The MODU interface assists the SCSC and Operations Section Chief in communications with the MODU and Associated Drilling Contractor. The MODU interface provides specialist knowledge of operations leading up to the event to the Source Control Section.
Subsea First Response Toolkit (SFRT) FST Lead	The SFRT FST Lead is responsible for planning, organizing, and conducting operations that utilise the SFRT. This includes site survey and assessment, debris removal and blowout preventer intervention. The SFRT FST Lead reports directly to the SCSC and coordinates with the Capping, Subsea Dispersant Injection and SIMOPS FST Leads.
Capping FST Lead	The Capping FST Lead is responsible for planning, organizing, mobilising and conducting Capping Stack Installation and operations to shut-in the well. The Capping Stack FST Lead reports to the SCSC and coordinates its operations with the SFRT and Relief Well FST Leads. After the well is capped, the Capping Stack FST Lead's team monitors the well and cap integrity.
Subsea Dispersant Injection FST Lead	The Subsea Dispersant FST Lead coordinates the use of subsea dispersant equipment at or near the incident source. The Subsea Dispersant FST Lead manages subsea dispersant operations, encompassing subsea dispersant equipment operations, including setup, determination of flow rates and application techniques. The Subsea Dispersant FST Lead also coordinates the procurement and transportation of dispersant materials and works with the surface spill team to ensure the proper dispersant resource allocation. The Subsea Dispersant FST Lead also coordinates with the SIMOPS FST Lead.
Relief Well FST Lead	The Relief Well FST Lead is responsible for managing and coordinating the relief well design, relief well operation, coordinating the development of the drilling plan and drilling procedures, securing resources, and managing relief well operations. The Relief Well FST Lead coordinates their operations with the SIMOPS FST Lead. The Relief Well FST Lead reports to the SCSC for source control matters and the GWS Drilling Engineering Manager for drilling matters.
Well Kill FST Lead	The Well Kill FST Lead is responsible for planning and coordinating the Well Kill operation. This includes providing the best estimate of well-discharge rates and evaluation of well integrity to support capping and relief well operations. The Well Kill FST Lead coordinates gathering current reservoir and geologic models, wellbore diagram and directional surveys, well fluid surveys, performance predictions, wellbore stability, and mechanical condition of the well. The Well Kill FST provides recommendations on chemical injection programs (hydrate inhibitors) and proposed subsea flow equipment. The Well Kill FST Lead reports directly to the SCSC and coordinates with the Relief Well, Capping, Subsea Dispersant Injection and SIMOPS FST Leads.
SIMOPS FST Lead	The SIMOPS Function Support Team Lead plans, organizes, and monitors subsea and surface operations within the designated SIMOPS area. The Supervisor manages the access to the subsea areas for all simultaneous activities, including ROV operations, relief well operations, debris removal operations, capping operations, subsea dispersant operations, and containment operations, including frequency management. The SIMOPS FST Lead ensures coordination of all Source Control operations with other associated Response Operations. The Lead also works with the SCSC to develop operational plans for the Incident Action Plan. The SIMOPS FST Lead reports directly to the SCSC.

The Source Control Section may include:

- GWS Head of Region
- GWS Engineering Manager/s
- GWS Superintendent/s
- Subsea Vessel Superintendent/s
- GWS Engineering support, as required
- Subsea Engineering support, as required
- Rig Contractor Representatives
- Service Company and Vendor Representatives
- Source Control Contractors
- HSE Adviser/s
- Logistics Coordinator/s
- Fluids Coordinator
- Subsurface Pore Pressure Prediction Focal Point
- Operations Geologists
- Geomatics Representative.

Woodside has a contract with Integrity Management and Response LLC, based in Houston, for the provision of source control emergency response services and personnel. This service can be called off on an as-required basis to supplement the Perth-based Source Control Response team.

7.16.7.2 Source Control Incident Management team personnel and resourcing

A source control response is managed by the SCSC. This is a rostered position with role specific training requirements. The SCSC will initially draw upon personnel within the GWS Australia organisation for form the necessary FSTs. To ensure the FSTs are staffed by the appropriate personnel, a map of FST positions against current role descriptions has been developed and can be found below in Table 7-11. For example, the Senior Drilling Engineer role is mapped as being a primary candidate to fill the Relief Well Unit Lead FST position. In this example the competencies required to drill a relief well are deemed to be analogous to the competences required to drill a development or exploration well. As such, any individual currently performing in the Senior Drilling Engineer role, and subject to the existing Woodside performance management process including the completion of annual performance reviews, is deemed to be competent to perform the mapped FST role.

Table 7-11: Role descriptions mapped to Source Control Section roles

Role description	Functional Support team							
	<i>Deputy SCSC</i>	<i>SFRT Unit</i>	<i>Capping Unit</i>	<i>Subsea Dispersant Injection Unit</i>	<i>Relief Well Unit</i>	<i>Well Kill Unit</i>	<i>SIMOPs Unit</i>	<i>RWIS Unit (SCA)</i>
Engineering Manager/Subject Matter Experts	Primary	Backup	Backup	Backup	Backup	Backup	Backup	Backup
Superintendent	Primary	Backup	Primary	Backup	Primary	Primary	Primary	Primary
Senior Drilling Engineer	Primary	Backup	Backup	Backup	Primary	Primary	Primary	Backup
Drilling Engineer	Backup		Backup	Backup	Backup	Backup	Backup	Backup
Senior Completions Engineer	Primary	Backup	Backup	Backup		Primary	Primary	Backup
Completions Engineer	Backup		Backup	Backup		Backup	Backup	Backup
Sen Subsea Engineer	Primary	Primary	Primary	Primary			Primary	Primary
Subsea Engineer	Backup	Backup	Backup	Backup			Backup	Backup

The Source Control IMT response structure indicated in Figure 7-4 is estimated to require from four to 14 personnel per shift, varying with the scale of response (eight to 28 personnel for 24-hour coverage). For a prolonged response, including resources to provide on/off weekly cycles, an additional 28 personnel may be required. These numbers are indicative and will vary, depending on scale and complexity of operations.

The current organisational review indicates Woodside has more than 80 internal staff members to support the Source Control IMT positions. In the event of a Level 3 incident, response activities will be given priority and other projects may be reduced or suspended, allowing reallocation of significant additional resources. Woodside would require access to external resources primarily for specialist services and expertise in source control and well control operations.

Additional personnel to support the Source Control FST will be filled through the following avenues:

- Source Control Specialists through existing contracts, for example Wild Well Control, AGR
- Secondment of personnel from other titleholders through Australian Energy Producers Industry MoU (2021)
- engineering support through call-off frame agreements.

7.16.8 Emergency and spill response drills and exercises

Testing of Woodside's capability to respond to incidents will be conducted in alignment with the Emergency and Crisis Management Procedure. The scope, frequency and objective of these tests is described in Figure 7-5. Woodside's emergency response testing regime is aligned to existing or developing risks associated with Woodside's operations and activities. Corporate hazards/risks outlined in the corporate risk register, respective Safety Cases or project Risk Registers, are the reference point for emergency management and crisis management exercise schedule development. External participants may be invited to attend exercises, such as government agencies, specialist service providers, oil spill response organisations or industry members with which we have mutual aid arrangements.

The overall objective of exercising is to test procedures, skills and teamwork of the Emergency Response and Command teams in their ability to respond to major events. After each exercise, the team holds a debrief session, during which the exercise is reviewed. Any lessons learnt or areas for improvement are identified and incorporated into revised procedures where appropriate.

Table 7-12: Testing of response capability

Response category	Scope	Response testing frequency – operations	Response Testing Objective
Level 1 response	Exercises are project/activity specific	Two comprehensive Level 1 'First Strike' drills conducted per year, per asset. Additional Level 1 emergency drills routinely conducted (approximately one per fortnight).	Comprehensive exercises test elements of Appendix I Emergency drills are scheduled to test other aspects of the Emergency Response Plan
Level 2 response	Exercises are facility/vessel specific	A minimum of one Emergency Management exercise is conducted biennially.	Test both the facility IMT response and that of the CIMT following handover of incident control
Level 3 response	Exercises are relevant to all Woodside assets	The number of Crisis Management team exercises conducted each year is determined by the Chief Executive Officer, in consultation with the VP of Security and Emergency Management.	Test Woodside's ability to respond to and manage a crisis level incident

7.16.9 Hydrocarbon spill response testing of arrangements

There are a number of arrangements which, in the event of a spill, will underpin Woodside's ability to implement a response across its petroleum activities. To ensure these arrangements are adequately tested, the Crisis and Emergency Management team within Security and Emergency Management ensures tests are conducted in alignment with the Hydrocarbon Spill Testing of Arrangements Schedule.

Woodside's arrangements for spill response are common across its Australian operating assets and activities to ensure the controls are consistent. The overall objective of testing these arrangements is to ensure that Woodside maintains an ability to respond to a hydrocarbon spill, specifically to:

- ensure relevant responders, contractors and key personnel understand and practice their assigned roles and responsibilities
- test response arrangements and actions to validate response plans
- ensure lessons learned are incorporated into Woodside's processes and procedures and improvements are made where required.

If new response arrangements are introduced, or existing arrangements significantly amended, additional testing is undertaken accordingly. Additional activities or locations are not anticipated to occur; however, if they do, testing of relevant response arrangements will be undertaken as soon as practicable.

In addition to the testing of response capability described in Figure 7-5, up to eight formal exercises are planned annually, across Woodside, to specifically test arrangements for responding to a hydrocarbon spill to the marine environment.

7.16.9.1 Testing of arrangements schedule

Woodside's 'testing of arrangements' schedule (Figure 7-5) aligns with international good practice for spill preparedness and response management; the testing is compatible with the IPIECA Good Practice Guide and the Australian Institute for Disaster Resilience Australian Emergency Management Arrangements Handbook. If a spill occurs, enacting these arrangements will underpin Woodside's ability to implement a response across its petroleum activities.

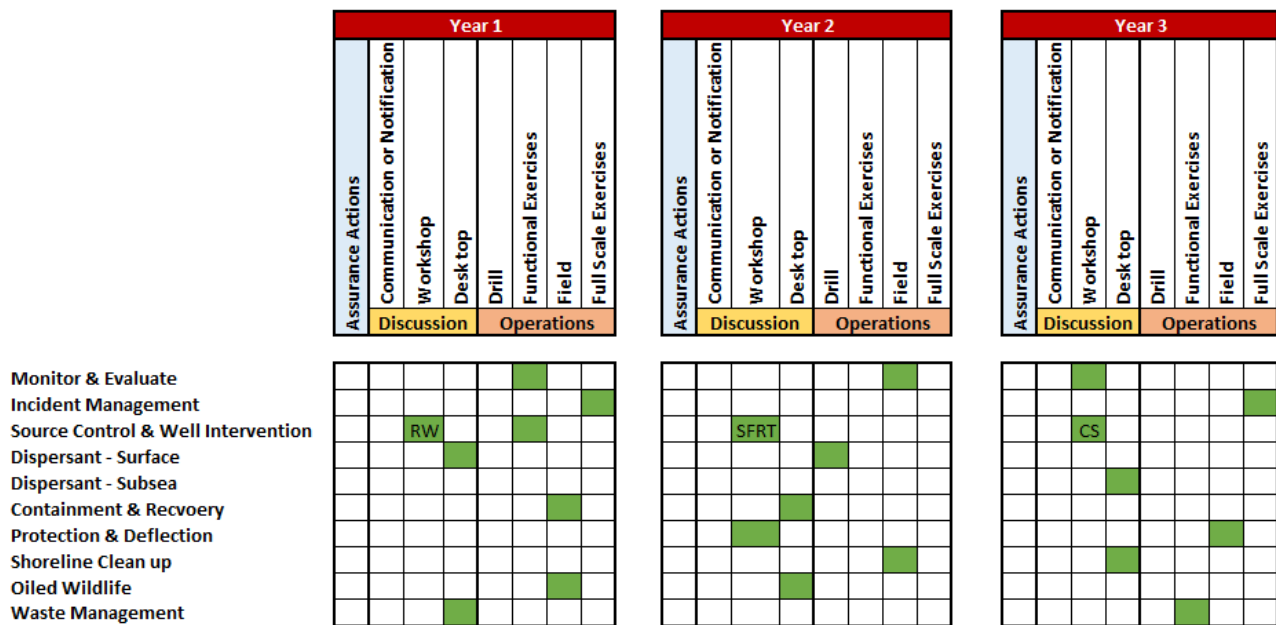


Figure 7-5: Indicative three-yearly testing of arrangements schedule

The hydrocarbon spill arrangements shown in the rows of the schedule are tested against Woodside's regulatory commitments. Each arrangement has a support agency/company and an area to be tested (e.g. capability, equipment and personnel). For example, an arrangement could be to test Woodside's personnel capability for conducting operational monitoring, or the ability of the Australian Marine Oil Spill Centre to provide response personnel and equipment.

The vertical columns relate to how hydrocarbon spill arrangements will be tested, at a minimum, over the three-year rolling schedule. The sub-heading for the column describes the standard method of testing likely to be undertaken (e.g. discussion exercise, desktop exercise), and the green cells indicate the arrangements that could be tested for each method.

Some arrangements may be tested across multiple exercises (e.g. critical arrangements) or via other 'additional assurance' methods outside the formal testing of arrangements schedule that also constitute sufficient evidence of testing of arrangements (e.g. audits, no-notice drills, internal exercises, assurance drills).

7.16.9.2 Source control testing and exercise arrangements

This section aims to present the testing and exercise arrangements for Source Control techniques as recommended in the recent industry guidelines such as the Australian Energy Producers Australian Offshore Titleholders Source Control Guideline (issued June 2021) and the NOPSEMA Information Paper: Source Control Planning and Procedures (issued June 2021)

The paragraphs below elaborate on the scope, testing frequency, objectives and close-out processes applicable to testing/exercises for Source Control techniques.

Scope, objectives and key performance indicators

The objective of tests/exercises is to verify the capability of Woodside and/or contractors to manage and deliver elements of the Source Control Plans presented in OPEP.

Tests may include specific elements of the response cycle for source control strategy, e.g. activation of arrangements, mobilisation of equipment and personnel and if relevant, testing of specific operational plans (e.g. SFRT, capping and relief well).

Objectives typically include testing of IMT capabilities, communications requirements, testing of source control response plans and evaluating specific aspects of source control arrangements, e.g. number of personnel, equipment, mobilisation plans and timeframes for response.

An example of test objectives from a recent exercise are presented below for reference:

- Objective 1 – Exercise the Source Control IMT against worst case credible loss of containment scenario.
- Objective 2 – Source a relief well MODU.
- Objective 3 – Verify key equipment and services are available to support relief well operations.
- Objective 4 – Deliver 'xx day' relief well specific to activity.

Key performance indicators are taken from the ALARP commitments as stated in the oil spill preparedness and response mitigation assessment (Appendix H).

The exercises are planned utilising Subject Matter Experts from the function with independent observers/agencies as available (e.g. Australian Marine Oil Spill Centre, Oil Spill Response Limited) along with Industry collaboration as available/permitted.

Formal exercise plans are produced prior to tests and exercises to document the scope, objectives, allocate resources and select relevant plans and previous lessons learnt for the test or exercise.

Table 7-12 provides indicative scope, testing frequency and objectives of the emergency and spill response drills and exercises which includes Source Control response techniques.

Frequency of tests

In addition to testing of arrangements for all responses listed in the schedule, Source Control techniques are tested on an annual basis; at least one technique per year. The schedule for testing Source Control techniques is described in Section 7.16.9.1.

Woodside has tested the below response techniques in last three years:

- capping stack deployment in 2021
- subsea well kill spool in 2022 (discussion exercise)
- SFRT, capping stack, relief well and well kill, and well intervention in 2023
- SFRT, relief well, capping stack, and well kill in 2024 during the Level 3 crisis management exercise.

In addition, Woodside Source Control team members participate in joint industry exercises on source control as available for continuous improvements to response plans.

Closeout processes

Post-exercise debriefs are held with the exercise team to identify gaps and capture learnings. The recommendations and actions are documented and assigned to the relevant function within the organisation and tracked until closeout. Close-out reports are distributed to relevant function leads and captured under Woodside's document management systems and relevant processes. Lessons learned are incorporated into Woodside's processes and procedures and improvements are made where required.

7.16.10 Cyclone and dangerous weather preparation

Tropical cyclones and other severe weather events are a potential risk to the safety and health of personnel and can potentially cause spills of hazardous materials into the environment from infrastructure and/or damaged vessels.

Subsea support vessels receive regular forecasts from the Bureau of Meteorology. If a cyclone (or severe weather event) is forecast, the path and its development will be plotted and monitored using the Bureau of Meteorology data. If there is the potential for the cyclone (severe weather event) to affect the Petroleum Activity, the asset Cyclone Contingency Plan and the vessel's Cyclone Contingency Plan will be actioned. If required, vessels can transit from the proposed track of the cyclone (severe weather event).

7.17 Offshore Marine Discharge Adaptive Management Plan

7.17.1 Overview

The OMDAMP has been developed to manage routine discharges to the marine environment from applicable offshore production facilities.

The objectives of the OMDAMP are to:

- manage marine discharges in a way that reduces the environmental risks and potential environmental impacts to ALARP and an acceptable level
- define monitoring measures to determine whether routine marine discharges comply with regulatory requirements and Woodside's Environmental Performance Procedure
- detail verification assessment and non-routine monitoring to be undertaken when routine monitoring identifies a change in discharge characteristics which have the potential to alter existing compliance with the Environmental Performance Procedure or relevant facility Operations EPs.

The OMDAMP defines a process and rationale for management of routine discharges such as PW, cooling water and brine to the marine environment. The OMDAMP considers applicable technical guidance (including the Commonwealth ANZG for fresh and marine water quality, National Water Quality Management Strategy and Technical Guidance: Protecting the quality of WA's marine environment (EPA, 2016)), as well as relevant internal procedures and asset-specific EP commitments. In addition, the OMDAMP is based on Woodside's experience managing PW at multiple northwest shelf offshore facilities and considers monitoring data collected over 20 to 30 years, allowing the application of appropriate controls and any lessons learnt to ensure impacts are acceptable and reduced to ALARP.

7.17.2 Routine monitoring and management

Monitoring changes in water quality as well as investigating potential toxicity via WET testing and implementing management to maintain acceptable levels of changes is standard industry practice in Commonwealth and State waters. By limiting the changes to water quality and therefore the pathway to impact sediment quality and biota there is high confidence no environmental impact has occurred outside the approved mixing zone boundary.

The OMDAMP details guideline values, routine monitoring assessment against trigger values, analytical methods and actions when a trigger value is exceeded. The trigger values are applied through a risk-based approach that is intended to capture uncertainty around the level of impact by staging monitoring and management responses according to the degree of risk of environmental impact. This approach provides a level of confidence that management responses are not triggered too early (i.e. when there is no actual impact) or too late after significant or irreversible damage to the surrounding ecosystem (EPA, 2016). Changes in discharge contaminants and PW toxicity can be detected early and can indicate the potential for an impact prior to an impact occurring allowing for timely management. WET testing confirms if there is a potential for impact on biota.

PW samples should be representative of normal operations, hence timing of sampling coincides with a period of normal operating circumstances for a facility, as well as also considering when wells have begun to cut water, which formation water producing wells are online and chemicals that may be present in the discharge stream. Ensuring samples are representative of normal operations may require deferring sampling within the calendar year if required. Samples are analysed by a National Association of Testing Authorities accredited laboratory (where applicable) for key physio-chemical parameters and chemical analytes.

WET tests are undertaken on a broad range of taxa of ecological relevance for which accepted standard test protocols are well established. WET tests mainly focus on the early life stages of test organisms, when organisms are typically most sensitive to contaminants; the tests are designed to represent local trophic level receptors. For WET testing, a range of tropical and temperate Australian marine species were selected based on their ecological relevance, known sensitivity to contaminants, availability of robust test protocols, and known reproducibility and sensitivity as test species. The dilutions required to protect 99% and 95% of species are calculated using the Warne et al. (2025) methodology. If a trigger value is not met, it indicates uncertainty around whether the environmental value is being protected and further investigation is required (Figure 7-6).

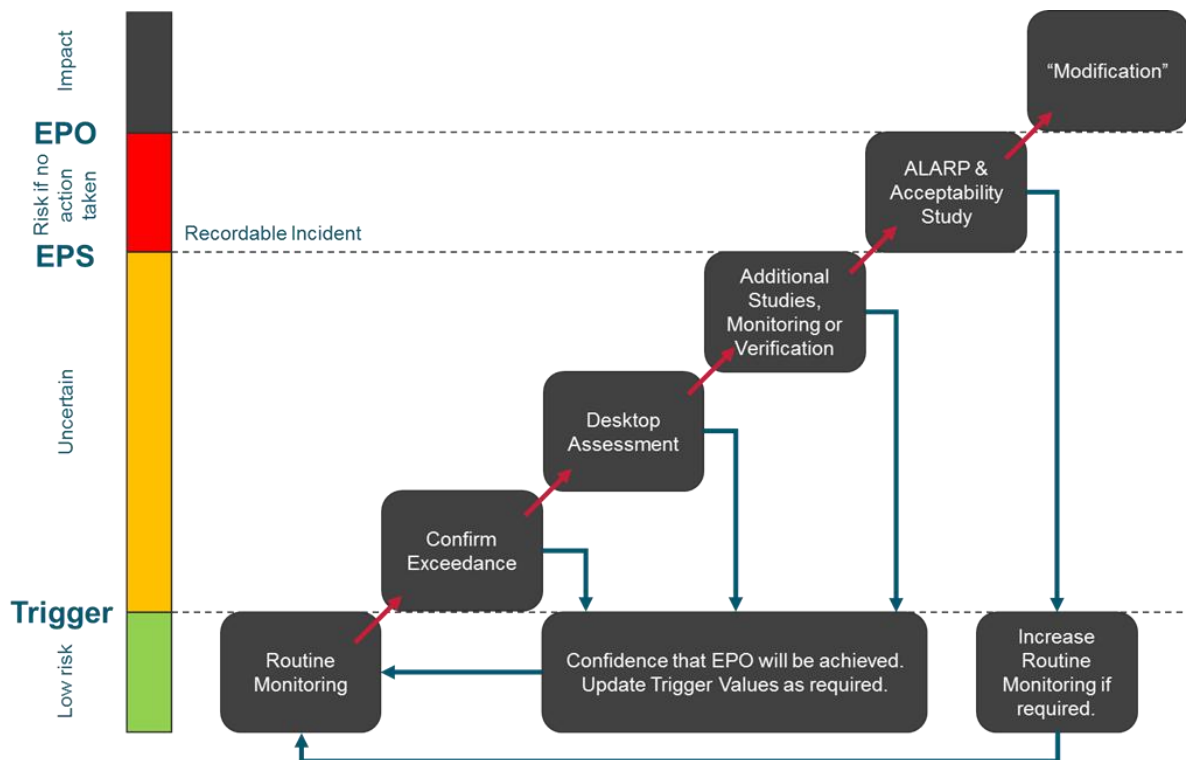


Figure 7-6: Routine monitoring and adaptive management framework for produced water

7.17.3 Further investigations

Detectable exceedances in trigger values may occur without impacting the environment. To provide confidence that environmental impact has not occurred outside the approved mixing zone boundary, further investigation would be required (Figure 7-6) in the form of a data review desktop study to initially assess the exceedance in context of available data and confirm if there is potential for impact to the environment. Although a desktop assessment is necessary before undertaking additional in-field monitoring, operational management actions may be initiated to reduce the risk to the environment while the review is completed. This ensures monitoring programs are designed and implemented to provide robust findings based on good survey design.

A range of methods can be used to detect trigger value exceedances (e.g. relative percentage difference, control charts, multivariate analysis) depending on the dataset available. An appropriate method is selected as described in the OMDAMP due to the variable nature of environmental data. If critical data are not available, the desktop study identifies potential data gaps and may recommend additional non-routine studies and/or monitoring to ensure the assessment is appropriately undertaken. The purpose of the 'further investigations' step is to provide certainty that the EPO has been achieved if a trigger value has been exceeded. The key investigation steps are described below:

- **Confirm the trigger value has been exceeded** – Review quality assurance and quality control, methodology and possible sources of contamination to determine if the results are reliable, or if any factors have occurred that may compromise the integrity of the monitoring or data.
- **Desktop assessment to understand whether the EPO is at risk** – If a trigger value is confirmed to be exceeded, multiple lines of evidence are considered including historical and current data from routine and non-routine monitoring and studies. This assessment shall consider whether there is adequate evidence to demonstrate that acceptability criteria have been met (EPO not breached). If the desktop assessment determines that the existing body of evidence is insufficient, it shall outline what additional monitoring or studies are required. Potential additional monitoring/studies may include but is not limited to:
 - single species test (collected annually in parallel with routine chemical characterisation should further investigation be required)
 - dilution modelling and or studies

- flocculation, sedimentation, settling velocity and/or dispersion analysis
- metal bioavailability
- scanning electron microscopy and particle size distribution analyses
- in-situ monitoring (water quality and/or sediments).

Routine monitoring activities may be required ahead of schedule and additional monitoring not listed may be undertaken as appropriate. Field monitoring is undertaken in accordance with a plan that details timing, locations and objectives of monitoring.

- **Conduct additional studies to confirm the EPO is not at risk** – Monitoring results provide additional lines of evidence to determine whether there is a risk of environmental impact at the mixing zone boundary due to unacceptable changes in water quality resulting in changes to sediment, or biological indicators. Given the significant health, safety and technical risks, logistics and planning required, monitoring of the receiving environment is typically only considered when all other sources of evidence are insufficient to demonstrate that the EPO is not at risk. The OMDAMP provides detailed guidance on the steps and actions required to be undertaken if a trigger value is exceeded and this may include additional non-routine monitoring to verify that environmental impacts have not occurred outside the boundary of the mixing zone.

If triggers are being exceeded but no impact to the environment is predicted to occur, the desktop assessment may consider development of site-specific trigger values in line with ANZG. For example, if chemical characterisation identified copper as exceeding trigger – ANZG 99% DGV but further investigations concluded levels observed were consistent with baseline and naturally occurring in the region. If potential impacts to environment are identified, an ALARP/acceptability study is required to determine what additional controls can be implemented to ensure the impacts are not realised.

7.17.4 ALARP/acceptability study

An ALARP/Acceptability study is conducted once it has been determined, as a result of further investigations, that there is potential for an impact that exceeds the acceptable limits of change. The ALARP/acceptability study shall be conducted in accordance with the ALARP Demonstration Procedure, to determine additional controls that may be necessary to reduce the potential impacts. Additional management measures (controls) may include technology, process upgrades or reservoir management. Woodside will implement the additional controls identified in the ALARP/acceptability study that are required to give confidence that the acceptable limits of impact can be achieved.

7.17.5 Review and revision

This OMDAMP is typically reviewed annually to incorporate the following:

- completion of the annual OMDAMP compliance review – incorporating any recommendations for further assessment and/or updates to the monitoring framework
- recently accepted EPs – incorporating any new/amended monitoring commitments/triggers
- regulatory inspections – incorporating any relevant findings or recommendations

Updates to key guidelines, guideline values or changes to recommended sampling/methodologies.

8 REFERENCES

- Accomando, A.W., J.J. Finneran, E. Henderson, K. Jenkins, S. Kotecki, C. Martin, J. Mulsow, and M. Zapetis. 2025. Criteria and Thresholds for U.S. Navy Acoustic and Explosive Effects Analysis (Phase 4) Revision 2025.1. Report by NIWC Pacific and National Marine Mammal Foundation for the US Navy. [https://www.nepa.navy.mil/Portals/20/Documents/aftteis4/Criteria%20and%20Thresholds%20for%20U.S.%20Navy%20Acoustic%20and%20Explosive%20Effects%20Analysis%20\(Phase%20IV\).pdf](https://www.nepa.navy.mil/Portals/20/Documents/aftteis4/Criteria%20and%20Thresholds%20for%20U.S.%20Navy%20Acoustic%20and%20Explosive%20Effects%20Analysis%20(Phase%20IV).pdf).
- Advisian, 2015. BHP Pyrenees Sediment Sampling 2015 – Sampling and Analysis Report. Report completed for BHP.
- Advisian, 2016. BHP Pyrenees Facility: FPSO discharge water quality monitoring 2016. Report completed for BHP.
- Advisian, 2017. BHP Pyrenees Facility: FPSO discharge water quality monitoring 2017 (November 2017). Report completed for BHP.
- Advisian, 2020. Pyrenees Venture FPSO 2020 Water Quality Monitoring Report (May 2020). Report prepared for BHP.
- Advisian, 2021. BHP Pyrenees Sediment Sampling 2021 – Sampling and Analysis Report. Report completed for BHP.
- Advisian, 2022. Pyrenees Floating Production Storage and Offloading (FPSO) Facility Produced Formation Water Desktop Assessment (June 2022). Report prepared for BHP Petroleum.
- Aichinger Dias, L., Litz, J., Garrison, L., Martinez, A., Barry, K. and Speakman, T., 2017. Exposure of cetaceans to petroleum products following the Deepwater Horizon oil spill in the Gulf of Mexico. *Endangered Species Research* 33: 119–125. doi:10.3354/esr00770.
- ANZG, 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia.
- APASA, 2012. Quantitative spill modelling for Moondyne well. Report prepared for BHP Petroleum Pty Ltd, November 2012.
- Aubé, M., Franchomme-Fossé, L., Robert-Staehler, P. and Houle, V., 2005. Light pollution modelling and detection in a heterogeneous environment: toward a night-time aerosol optical depth retrieval method, in: *Proceedings of SPIE. Presented at the Atmospheric and environmental remote sensing data processing and utilization: numerical atmospheric prediction and environmental monitoring*, International Society for Optics and Photonics, pp. 248–256.
- [ABARES] Australian Bureau of Agricultural and Resource Economics and Sciences, 2021. Fisheries Status Report map data: All Fisheries combined (ALLFSY): fishing intensity and maximum area fished, annual map data for 2010 to 2020. ABARES, Canberra, October. CC BY 4.0.
- Agreement on the Conservation of Albatrosses and Petrels, 2012. Species assessments: Indian Yellow-nosed Albatross *Thalassarche carteri*. Version 19 September 2010. URL: <https://www.acap.aq/acap-species/295-indian-yellow-nosed-albatross/file>.
- [AFMA] Australian Fisheries Management Authority, 2021. Joint Authority Fisheries. Australian Fisheries Management Authority, Canberra, ACT. URL: <https://www.afma.gov.au/fisheries/joint-authority-fisheries>.
- Australian Institute of Marine Science, 2002. Exploration of biodiversity – data report on benthic habitats and biological collections from an initial benthic survey conducted in the region of WA-271-P. Report Produced for Woodside Energy Ltd.
- Bartol, S.M. and Musick, J.A., 2003. Sensory biology of sea turtles. In: *Biology of Sea Turtles*, Vol.2. Lutz, P.L., Musick, J.A., Wyneken, J. (Eds.), 79–102. Boca Raton, FL: CRC Press.
- Batten, S., Allen, R. and Wotton, C., 1998. The effects of the Sea Empress oil Spill on the plankton of the southern Irish Sea. *Marine Pollution Bulletin*, 36: 764–774.
- Benjamin, J., O'Leary, M., McDonald, J., Wisemen, C., McCarthy, J., Beckett, E., Morrison, P., Stankiewicz, F., Leach, J., Hacker, J., Baggaley, P., Jerbic, K., Fowler, M., Fairweather, J., Jefferies, P., Ulm, S. and Bailey, G., 2020. Aboriginal artefacts on the continental shelf reveal ancient drowned cultural landscapes in northwest Australia. *PLoS ONE* 15(7): e0233912. <https://doi.org/10.1371/journal.pone.0233912>.

- Berry, W.O., 1980, A comparative study of the uptake of toluene by bluegill sunfish *Lepomis macrochirus* and crayfish *Orconectes rusticus*. Environmental Pollution 21:109–119.
- BHP Billiton Petroleum, 2004. Stybarrow Development, Environmental Impact Statement.
- BHP Petroleum (Australia) Pty Ltd, 2005. Pyrenees Development – Draft Environmental Impact Statement, Perth WA. BHPB-00PY-R950-0002.
- BHP Petroleum (Australia) Pty Ltd, 2006b. Pyrenees Crude Weathering and Chemical Composition. BHPBHP, 2007, Pyrenees Development Hull and Marine Functional Specification-Rev 1 10.04.2007. BHPB-00PY-S500-0004.
- BHP Petroleum (Australia) Pty Ltd, 2022. Pyrenees Phase 4 Infill Drilling Program Environment Plan, Perth WA. BHPB-04PY-N950-0021.
- Bignell, C.J., Patterson, T.A., Dovovan, A., Vanderklift, M.A., Rochester, W., Semmens, J.M. and Pillans, R.D., 2025. Satellite tracking reveals sex-specific differences in the geographical and vertical habitat use of Whale sharks, *Rhincodon typus*, in the Eastern Indian Ocean. Marine Biology (2025) 172:105. <https://doi.org/10.1007/s00227-025-04616-5>.
- Biofouling Solutions, 2018. Provision of services to address NOPSEMA's concerns surrounding the potential for invasive marine species to be translocated via vessels associated with the Pyrenees oil field development project.
- BMT, 2022. FPSO eDNA Feasibility Study. BHP/Woodside Energy Pty Ltd.
- Brewer, D.T., Lyne, V., Skewes, T.D. and Rothlisberg, P., 2007. Trophic systems of the North West Marine Region., Report to the Australian Government Department of the Environment and Water Resources, CSIRO, Cleveland.
- Cannel, B., Hamilton, S. and Driessen, J., 2019. Wedge-tailed shearwater foraging behaviour in the Exmouth Region. BirdLife Australia and University of Western Australian study. Available from: <https://www.birdlife.org.au/documents/wedgetailed%20shearwater%20foraging%20behaviour.pdf>.
- Cavaye, N. and Waibl, G., 2008. The Development of a Risk Assessment Model to Compare Oil Spill Risk for Single and Double Hulled FPSOs. International Oil Spill Conference 2008 Proceedings. URL: <http://ioscproceedings.org/doi/pdf/10.7901/2169-3358-2008-1-725> on 18/10/13.
- Chevron Australia Pty Ltd, 2015. Gorgon gas development and Jansz feed gas pipeline: Long-term marine turtle management plan (No. G1-NT-PLNX0000296). Chevron Australia Pty Ltd, Perth.
- Cianchetti-Benedetti, M., Becciu, P., Massa, B. and Dell'Omo, G., 2018. Conflicts between tourist recreational activities and breeding shearwaters: short-term effect of artificial light and sound on chick weight. European Journal of Wildlife Research, 64, doi:10.1007/s10344-018-1178-x.
- Clarkson, C., Jacobs, Z., Marwick, B., Fullagar, R., Wallis, L., Smith, M., Roberts, R.G., Hayes, E., Lowe, K. and Carah, X., 2017. Human occupation of northern Australia by 65,000 years ago. Nature 547, 306–325.
- Cohen, A., Gagnon, M.M. and Nugegoda, D., 2005. Alterations of metabolic enzymes in Australian bass, *Macquaria novemaculeata*, after exposure to petroleum hydrocarbons. Archives of Environmental Contamination and Toxicology 49: 200–205. Doi:10.1007/s00244-004-0174-1.
- Coleman, J.G. and West, N.F., 2000. An investigation of benthic sediment characteristics in the vicinity of the Cossack pioneer FPSO, North West Shelf. *The APPEA Journal*, 40(1): 667–681.
- Commonwealth of Australia, 2006. A guide to the integrated marine and coastal regionalization of Australia Version 4.0. Department of the Environment and Heritage, Canberra, Australia.
- Commonwealth of Australia, 2012a. Conservation Management Plan for the Southern Right Whale A Recovery Plan under the *Environment Protection and Biodiversity Conservation Act 1999* 2011–2021. Department of Sustainability, Environment, Water, Population and Communities.
- Commonwealth of Australia, 2012b. Marine bioregional plan for the North Marine Region, prepared under the *Environment Protection and the Biodiversity Conservation Act 1999*. Department of Sustainability, Environment, Water, Population and Communities. URL: <https://www.dcceew.gov.au/sites/default/files/env/pages/0fcb6106-b4e3-4f9f-8d06-f6f94bea196b/files/north-marine-plan.pdf>.

Commonwealth of Australia, 2013a. Recovery Plan for the White Shark (*Carcharodon carcharias*). Department of Sustainability, Environment, Water, Population and Communities. URL: <https://www.dcceew.gov.au/sites/default/files/documents/white-shark.pdf>.

Commonwealth of Australia, 2013b. Recovery Plan for the Australian Sea Lion. Department of Sustainability, Environment, Water, Population and Communities. URL: <https://www.dcceew.gov.au/sites/default/files/documents/neophoca-cinerea-recovery-plan.pdf>.

Commonwealth of Australia, 2014. Recovery Plan for the Grey Nurse Shark (*Carcharias taurus*). Department of the Environment, Canberra.

Commonwealth of Australia, 2015a. Conservation management plan for the blue whale: A recovery plan under the *Environment Protection and Biodiversity Conservation Act 1999* 2015–2025. Department of the Environment, Canberra.

Commonwealth of Australia, 2015b. Sawfish and river shark multispecies recovery plan (Recovery Plan). Department of the Environment, Canberra.

Commonwealth of Australia, 2015c. Wildlife Conservation Plan for Migratory Shorebirds, Commonwealth of Australia. URL: <https://www.dcceew.gov.au/sites/default/files/documents/wildlife-conservation-plan-migratory-shorebirds.pdf>.

Commonwealth of Australia, 2017. Recovery plan for marine turtles in Australia 2017–2027. Department of the Environment and Energy, Canberra.

Commonwealth of Australia, 2018. Threat abatement plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans (2018). Department of the Environment and Energy.

Commonwealth of Australia, 2020a. National Recovery Plan for the Australian Fairy Tern. Department of Climate Change, Energy, the Environment, and Water. URL: <https://www.dcceew.gov.au/sites/default/files/documents/national-recovery-plan-australian-fairy-tern.pdf>.

Commonwealth of Australia, 2020b. Wildlife Conservation Plan for Seabirds. Department of Climate Change, Energy, the Environment, and Water. URL: <https://www.dcceew.gov.au/environment/biodiversity/publications/wildlife-conservation-plan-seabirds-2022>.

Commonwealth of Australia, 2022. National Recovery Plan for albatrosses and petrels. Department of Biodiversity, Conservation and Attractions. URL: <https://www.dcceew.gov.au/sites/default/files/documents/national-recovery-plan-albatrosses-and-petrels-2022.pdf>.

Commonwealth of Australia, 2023. National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds. Department of the Environment and Energy, Canberra.

Connell, S. and McPherson, C., 2025. Acoustic Modelling for Woodside Scarborough Offshore Facility and Trunkline (Operations) EP using NMFS 2024 Technical Guidance.

Connell, S., et al., 2025. 2025 Sea turtle noise effect criteria updates for Woodside Pluto Drilling and Woodside NWS FPSO Operations – Technical Memorandum (10 November 2025).

CSIRO, 2017. Climate Change in Australia [WWW Document]. URL <https://www.climatechangeinaustralia.gov.au/en/>.

Dean, T.A., Stekoll, M.S., Jewett, S.C., Smith, R.O. and Hose, J.E., 1998. Eelgrass (*Zostera marina* L.) in Prince William Sound, Alaska: Effects of the Exxon Valdez oil spill. *Marine Pollution Bulletin*, 36: 201–210.

Deepwater Horizon Natural Resource Damage Assessment Trustees, 2016. Deepwater Horizon oil spill: final programmatic damage assessment and restoration plan and final programmatic environmental impact statement. National Oceanic and Atmospheric Administration, Silver Spring.

[DBCA] Department of Biodiversity, Conservation and Attractions, 2020. Economic contribution of Ningaloo: one of Australia's best kept secrets. Department of Biodiversity, Conservation and Attractions. Deloitte Access Economics. Perth. URL <https://www.dbca.wa.gov.au/media/964/download#:~:text=In%202018%2D19%2C%20Ningaloo%20contributed,on%20the%20Reef's%20unique%20existence>.

[DBCA] Department of Biodiversity, Conservation and Attractions (DBCA), Parks and Wildlife Service, Nynggulu Joint Management, Parks Australia. 2002. Ningaloo Coast World Heritage Area Visitor Guide. Department of Biodiversity, Conservation and Attractions, Perth.

[DBCA] Department of Biodiversity Conservation and Attractions 2013. Murujuga National Park management plan 78 murujuga_national_park_management_plan (2).pdf

[DBCA]. Department of Biodiversity Conservation and Attractions 2025. Murujuga Cultural Landscape World Heritage Area. Accessed at <https://www.dbca.wa.gov.au/management/world-heritage-areas/murujuga-cultural-landscape-world-heritage-area>

[DCCEEW] Department of Climate Change, Energy, the Environment and Water, 2023. Indigenous Protected Areas. URL: <https://www.dcceew.gov.au/environment/land/indigenous-protected-areas>.

[DCCEEW], Department of Climate Change, Energy, the Environment and Water, 2025. World Heritage Places - Murujuga Cultural Landscape. Accessed at World Heritage Places - Murujuga Cultural Landscape

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024a. National Recovery Plan for the Southern Right Whale *Eubalaena australis*. Department of Climate Change, Energy, the Environment and Water, Canberra. Available from: <http://www.dcceew.gov.au/environment/biodiversity/threatened/recovery-plans/southern-right-whale>

[DCCEEW] Department of Climate Change, Energy, the Environment and Water 2024b, Assessing and Managing Impacts to Underwater Cultural Heritage in Australian Waters, Department of Climate Change, Energy, the Environment and Water, Canberra

[DCCEEW] Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2022. Australia's emissions projections 2022

Department of Conservation and Land Management, 2005. Management Plan for the Ningaloo Marine Park and Muiron Islands Marine Management Area 2005–2015 (Management Plan No. 52). Department of Conservation and Land Management, Perth.

[DECC] Department of Energy and Climate Change, 2011. Review and Assessment of Underwater Sound Produced from Oil and Gas Sound Activities and Potential Reporting Requirements under the Marine Strategy Framework Directive. Genesis Oil and Gas Consultants report for DECC.

Document No. J71656-Final Report-G2, July 2011. URL: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/50017/finreport-sound.pdf.

Department of Environment and Conservation, 2007. Management plan for the Montebello/Barrow Islands Marine Conservation Reserves. Marine Parks and Reserves Authority, Perth.

[DISER] Department of Industry, Science, Energy and Resources, 2020. Offshore Petroleum Decommissioning Guideline. Australian Government, Canberra.

[DISER] Department of Industry, Science and Resources 2022. Australia's Nationally Determined Contribution Communication 2022. Canberra, Australian Capital Territory: Department of Industry, Science, Energy and Resources (Australian Government). <https://unfccc.int/sites/default/files/NDC/2022-06/Australias%20NDC%20June%202022%20Update%20%283%29.pdf>

[DEWHA] Department of Environment, Water, Heritage and the Arts 2008. The North-west Marine Bioregional Plan, Bioregional Profile. A Description of the Ecosystems, Conservation Values and Uses of the North-west Marine Region. Prepared by the Marine Bioregional Planning - North-west Marine and Biodiversity Division. Department of the Environment, Water, Heritage and the Arts. 288 pp.

[DoE] Department of the Environment, 2023. *Pristis pristis* in Species Profile and Threats Database. Department of the Environment, Canberra. URL: <https://www.environment.gov.au/sprat>.

Department of the Environment and Energy, 2019. Loss of terrestrial climatic habitat caused by anthropogenic emissions of greenhouse gases [WWW Document]. URL: <https://www.environment.gov.au/climate-change/climate-solutions-package> (accessed 6.4.19).

Department of Parks and Wildlife, 2013. Whale shark management with particular reference to Ningaloo Marine Park, Wildlife management program no. 57, Department of Parks and Wildlife, Perth, Western Australia.

[DPIRD] Department of Primary Industries and Regional Development, 2018b. Draft Management Plan for the Pilbara Crab Managed Fishery. Fisheries Management Paper No. 290. Government of Western Australia.

DPIRD, 2020. Fish Cube WA – Commercial Collector Component Public Cube. Department of Primary Industries and Regional Development, Western Australia, Perth.

DPIRD, 2022. Fish Cube WA – Commercial Collector Component Public Cube. Department of Primary Industries and Regional Development, Western Australia, Perth.

DPIRD, 2023. Fish Cube WA – Commercial Collector Component Public Cube. Department of Primary Industries and Regional Development, Western Australia, Perth.

[DSEWPac] Department of Sustainability, Environment, Water, Population and Communities, 2011a. Approved Conservation Advice for *Aipysurus apraefrontalis* (Short-nosed Sea Snake). Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. URL <http://www.environment.gov.au/biodiversity/threatened/species/pubs/1115-conservation-advice.pdf>.

DSEWPac, 2011b. Approved Conservation Advice for *Aipysurus foliosquama* (Leaf-scaled Sea Snake). Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. URL <http://www.environment.gov.au/biodiversity/threatened/species/pubs/1118-conservation-advice.pdf>.

DSEWPac, 2012a. Marine bioregional plan for the North-west Marine Region. *Prepared under the Environment Protection and Biodiversity Conservation Act 1999*. URL <http://www.environment.gov.au/topics/marine/marine-bioregional-plans/north-west>.

DSEWPac, 2012b. Conservation Management Plan for the Southern Right Whale: A Recovery Plan under the *Environment Protection and Biodiversity Conservation Act 1999* 2011–2021. Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. URL: <http://www.environment.gov.au/resource/conservation-management-plan-southern-right-whale-recovery-plan-under-environment>.

DSEWPac, 2013. Approved Conservation Advice for *Rostratula australis* (Australian painted snipe). Canberra: Department of Sustainability, Environment, Water, Population and Communities. URL <http://www.environment.gov.au/biodiversity/threatened/species/pubs/77037-conservation-advice.pdf>.

DSEWPac, 2013a. Recovery Plan for the White Shark (*Carcharodon carcharias*). Canberra: Department of Sustainability, Environment, Water, Population and Communities. URL: <http://www.environment.gov.au/biodiversity/threatened/recovery-plans/recovery-plan-white-shark-carcharodon-carcharias>.

DSEWPac, 2013b. Recovery Plan for the Australian Sea Lion (*Neophoca cinerea*). Department of Sustainability, Environment, Water, Population and Communities. URL: <http://www.environment.gov.au/resource/recovery-plan-australian-sea-lion-neophoca-cinerea>.

DNV, 2011. Final Report Assessment of the Risk of Pollution from Marine Oil Spills in Australian Ports and Waters. Report for Australian Maritime Safety Authority, Report No PP002916 Rev 4, 2011.

Double, M., Gales, N., Jenner, K. and Jenner, M., 2010. Satellite tracking of south-bound female humpback whales in the Kimberley region of Western Australia. Australian Marine Mammal Centre, Hobart.

Double, M., Jenner, K., Jenner, M., Ball, I., Childerhouse, S., Loverick, S. and Gales, N., 2012a. Satellite tracking of northbound humpback whales (*Megaptera novaeangliae*) off Western Australia. Australian Marine Mammal Centre, Hobart.

Double, M., Jenner, K., Jenner, M.-N., Ball, I., Laverick, S. and Gales, N., 2012b. Satellite tracking of pygmy blue whales (*Balaenoptera musculus brevicauda*) off Western Australia. Australian Marine Mammal Centre, Hobart.

Double, M.C., Andrews-Goff, V., Jenner, K.C.S., Jenner, M.-N., Laverick, S.M., Branch, T.A. and Gales, N.J., 2014. Migratory movements of pygmy blue whales (*Balaenoptera musculus brevicauda*) between Australia and Indonesia as revealed by satellite telemetry. PloS one 9: e93578.

Dunlop, R.A., Noad, M.J., McCauley, R.D., Scott-Hayward, L., Kniest, E., Slade, R., Paton, D. and Cato, D.H., 2018. Determining the behavioural dose–response relationship of marine mammals to air gun noise and source proximity. The Journal of Experimental Biology 220: 2,878–2,886. Doi:10.1242/jeb.160192.

Eckert, S., Bowles, A. and Berg, E., 1998. The effect of seismic airgun surveys on leatherback sea turtles (*Dermochelys coriacea*) during the nesting season. Technical report to BHP (Petroleum) Trinidad Ltd.

- Erbe, C., 2012. Effects of underwater noise on marine mammals. *Advances in Experimental Medicine and Biology*, 730: 17–23.
- Erbe, C., Dunlop, R. and Dolman, S., 2018. Effects of Noise on Marine Mammals. *Effects of Anthropogenic Noise on Animals*, 277–309.
- Erbe, C., Reichmuth, C., Cunningham, J., Lucke, K. and Dooling, R., 2015. Communication masking in marine mammals: A review and research strategy. *Marine Pollution Bulletin*, 103 (1–2): 15–38.
- Exotox, 2019. Environment Minister, 2006. Approval Decision – Pyrenees Petroleum Field Development, EPBC 2005/2034 of 26 Apr 2006. Canberra, Australia.
- Fodrie, F.J. and Heck, K.L., 2011. Response of coastal fishes to the Gulf of Mexico oil disaster. *PLoS ONE* 6: e21609. doi:10.1371/journal.pone.0021609.
- Furnas, M. and Mitchell, A., 1999. Wintertime carbon and nitrogen fluxes on Australia's Northwest Shelf. *Estuarine, Coastal and Shelf Science* 49: 165–175.
- Gagnon, M.M. and Rawson, C., 2010. Montara well release: Report on necropsies from a Timor Sea green turtle. Curtin University, Perth.
- Gaston, K.J., Duffy, J.P., Gaston S., Bennie J. and Davies, T.W., 2014. Human alteration of natural light cycles: causes and ecological consequences. *Oecologia* 176: 917–931.
- Geoscience Australia, 2017. AusSeabed Marine Data Portal, Accessed 30 June 2020, <https://portal.ga.gov.au/persona/marine>.
- Geraci, J., 1988. Physiologic and toxicologic effects of cetaceans, in: Geraci, J., St Aubin, D. (Eds.), *Synthesis of Effects of Oil on Marine Mammals*, OCS Study. Department of Interior, Ventura, pp. 168–202.
- GHD, 2018. Derivation of a dilution factor based on a Species Sensitivity Distribution. Memorandum to BHP Billiton Petroleum Pty. Ltd. 6136822-86780/6136822-Dilution rate calculation based on Species Sensitivity Distribution-Memo to BHP_14-Sep-2018 (V2) 14 September 2018 Perth Australia.
- Gilmour, J., Smith, L., Pincock, S. and Cook, K., 2013. Discovering Scott Reef: 20 years of exploration and research. Australian Institute of Marine Science, Townsville.
- Greenwell, C., 2021. The Secret Life of Fairy Terns Revealed. Retrieved from: [The secret life of Fairy Terns revealed \(cgreenwell.com\)](https://cgreenwell.com).
- Hannay, D.E., MacGillivray, A.O., Laurinolli M. and Racca, R., 2004. Sakhalin Energy: source level measurements from 2004 acoustics program, Ver. 1.5. Technical report by JASCO Research, Victoria, BC, for Sakhalin Energy Investment Company, Yuzhno-Sakhalinsk.
- Hart, A., Murphy, D. and Moor, N., 2013. Pearl Oyster Managed Fishery Status Report. Department of Fisheries, 229–234. URL: <https://www.dcceew.gov.au/sites/default/files/env/pages/489e726d-1763-4007-8139-32d824d5b55d/files/application-2013-appendix1f.pdf>.
- Hassan, A. and Javed, H., 2011. Effects of Tasman Spirit oil spill on coastal birds at Clifton, Karachi coast, Pakistan. *Journal of Animal and Plant Sciences* 21: 333–339.
- Hazel, J., Lawler, I.R., Marsh, H. and Robson, S., 2007. Vessel speed increases collision risk for the green turtle *Chelonia mydas*. *Endangered Species Research* 3: 105–113.
- Heatwole, H. and Cogger, H.G., 1993. Chapter 36: Family Hydrophiidae, in: *Fauna of Australia*. Australian Government Publishing Service, Canberra.
- Heintz, R.A., Rice, S.D., Wertheimer, A.C., Bradshaw, R.F. and Thrower, F.P., 2000. Delayed effects on growth and marine survival of pink salmon *Oncorhynchus gorbuscha* after exposure to crude oil during embryonic development, *Marine Ecology Progress Series*, 208.
- Helm, R.C., Costa, D.P., DeBruyn, T.D., O'Shea, T.J., Wells, R.S. and Williams, T.M., 2015. Overview of effects of oil spills on marine mammals, in: Fingas, M. (Ed.), *Handbook of Oil Spill Science and Technology*. Wiley, pp. 455–475.
- Henkel, J.R., Sigel, B.J. and Taylor, C.M., 2012. Large-scale impacts of the Deepwater Horizon oil spill: can local disturbance affect distant ecosystems through migratory shorebirds? *BioScience* 62: 676–685. doi:10.1525/bio.2012.62.7.10.

- Hewitt, C.L. and Campbell, M., 2010. The relative contribution of vectors to the introduction and translocation of invasive marine species, Canberra City, The Department of Agriculture, Fisheries and Forestry.
- Hewitt, C.L., Campbell, M.L., Thresher, R.E. and Martin R.B., 1999. Marine biological invasions of Port Phillip Bay, Victoria. Technical Report No. 20, Hobart, Australia, CSIRO Marine Research, Centre for Research on Introduced Marine Pests, 344.
- Hill, R. and Dunn, A., 2004. National recovery plan for the Christmas Island Frigatebird *Fregata andrewsi*. Commonwealth of Australia, Canberra. <http://www.environment.gov.au/biodiversity/threatened/recovery-plans/national-recovery-plan-christmas-island-frigatebird-fregata-andrewsi>.
- Hjermann, D.Ø., Melsom, A., Dingsør, G.E., Durant, J.M., Eikeset, A.M., Røed, L.P., Ottersen, G., Størvik, G. and Stenseth, N.C., 2007. Fish and oil in the Lofoten–Barents Sea system: synoptic review of the effect of oil spills on fish populations. Marine Ecology Progress Series 339: 283–299.
- Horton, David R. (1996). "Map of Indigenous Australia". AIATSIS.
- [IPCC] Intergovernmental Panel on Climate Change, 2021. 'Technical Summary' In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge, United Kingdom and New York: Cambridge University Press. Doi:10.1017/9781009157896.002
- [IPCC] Intergovernmental Panel on Climate Change, 2023. Climate Change 2023: Synthesis Report. Contributions of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.
- [IMO] International Maritime Organisation, 2023. Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species – 2024 Edition.
- [IPIECA] International Petroleum Industry Environmental Conservation Association, 2004. A guide to oiled wildlife response planning (IPIECA Report Series No. 13). International Petroleum Industry Environmental Conservation Association, London.
- [ITOPF] International Tanker Owners Pollution Federation, 2011a. Effects of oil pollution on the marine environment (Technical Information Paper No. 13). International Tanker Owners Pollution Federation Limited, London.
- ITOPF, 2011b. Effects of oil pollution on fisheries and mariculture (Technical Information Paper No. 11). International Tanker Owners Pollution Federation Limited, London.
- Jacobs, 2016, Offshore Facilities Produced Water: Chemical Characterisation and Sedimentation Assessment 2016, Document number: IW118700-0000-NM-RPT-0004.
- Jarman, S., Wilson, S., 2004. DNA-based species identification of krill consumed by whale sharks. Journal of Fish Biology 65: 586–591.
- JASCO Applied Sciences, 2010. Vincent Enfield Marine Monitoring Underwater Noise Investigation. JASCO Applied Sciences.
- Jensen, A. and Silber, G., 2004. Large whale ship strike database (NOAA Technical Memorandum No. NMFS-OPR). National Marine Fisheries Service, Silver Spring.
- Johansen, J.L., Allan, B.J., Rummer, J.L. and Esbaugh, A.J., 2017. Oil exposure disrupts early life-history stages of coral reef fishes via behavioural impairments. Nature Ecology and Evolution 1: 1,146–1,152. doi:10.1038/s41559-017-0232-5.
- Johnston, D., Yeoh, D., Harris, D. and Fisher, E., 2020b. Blue Swimmer Crab (*Portunus armatus*) and Mud Crab (*Scylla serrata* and *Scylla olivacea*) Resources in the North Coast and Gascoyne Coast Bioregions, Western Australia. Department of Primary Industries and Regional Development, Perth. Report 306.
- Johnstone, R.E., Burbidge, A.H. and Darnell, J.C., 2013. Birds of the Pilbara region, including seas and offshore islands, Western Australia: distribution, status and historical changes. Records of the Western Australian Museum Supplement 78, 343–441. doi:10.18195/issn.0313-122x. 78(2).2013.343–441.
- Kangas, M., Wilkin, S., Leaversuch, R. and Grounds, G., 2023b. Saucer Scallop Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 106–112.

- Kangas, M., Wilkin, S., Shanks, W. and Leaversuch, R., 2023a. North Coast Prawn Resource Status. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 155–616.
- King, D., Lyne, R., Girling, A., Peterson, D., Stephenson, R. and Short, D., 1996. Environmental risk assessment of petroleum substances: The hydrocarbon block method (CONCAWE No. 96/52). CONCAWE, Brussels.
- Laist, D.W., Knowlton, A.R., Mead, J.G., Collet, A.S. and Podesta, M., 2001. Collisions between ships and whales. *Marine Mammal Science* 17: 35–75.
- Last, P., Lyne, V., Yearsley, G., Gledhill, D., Gomon, M., Rees, T. and White, W., 2005. Validation of national demersal fish datasets for the regionalisation of the Australian continental slope and outer shelf (>40 metres depth), Australian Government Department of the Environment and Heritage & CSIRO Marine and Atmospheric Research, Hobart.
- Lenhardt, M., Bellmund, S., Byles, R., Harkins, S. and Musick, J., 1983. Marine Turtle reception of bone conducted sound. *Journal of Auditory Research* 23.
- Lenhardt, M.L., 1994. Seismic and very low frequency sound induced behaviours in captive loggerhead marine turtles (*Caretta Caretta*). In: Proceedings of the Fourteenth Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-351, 238–241.
- Li, S., Koessler, M.W. and Stephen, T.J., 2024. Woodside NWS FPSO Operations Modelling: Acoustic Modelling for Assessing Marine Fauna Sound Exposures. Document 03515, Version 2.0. Technical report by JASCO Applied Sciences for Woodside Australia.
- Li, S., 2024. Technical memo: Acoustic Modelling for Assessing Noise from Seabed Wellheads for Woodside Energy.
- Limpus, C. and Kamrowski, R.L., 2013. Ocean-finding in marine turtles: The importance of low horizon elevation as an orientation cue. *Behaviour*, 15, 863–893.
- Longcore, T. and Rich, C., 2004. Ecological light pollution. *Frontiers in Ecology and the Environment* 2: 191–198.
- Lulofs, H.M.A. and Sumner, N.R., 2002. Historical diving profiles for pearl oyster divers in Western Australia. *Fisheries Research Report*, 138.
- Lutcavage, M., Lutz, P., Bossart, G. and Hudson, D., 1995. Physiologic and clinicopathologic effects of crude oil on loggerhead sea turtles. *Archives of Environmental Contamination and Toxicology* 28: 417–422.
- [MAC] Murujuga Aboriginal Corporation, 2023a. About Our Land. Available at: <https://murujuga.org.au/our-land/our-land>
- [MAC] Murujuga Aboriginal Corporation, 2023b. Custodians showcase the magic of Murujuga at ICOMOS General Assembly 2023. Available at: <https://murujuga.org.au/custodiansshowcase-the-magic-of-murujuga-at-icomos-general-assembly-2023>
- Marangoni, L.F.B., Davies, T., Smyth, T., Rodríguez, A., Hamann, M., Duarte, C., Pendoley, K., Berge, J., Maggi, E. and Levy, O., 2022. Impacts of artificial light at night in marine ecosystems-A review. *Global change biology*, 28(18), 5,346–5,367. <https://doi.org/10.1111/gcb.16264>.
- Marine Pest Sectoral Committee, 2018. National biofouling management guidelines for the petroleum production and exploration industry, Department of Agriculture and Water Resources, Canberra, December. CC BY 4.0. Available at www.marinepests.gov.au/what-we-do/publication. Document modified in 2018 to meet accessibility requirements.
- Matthews, M.-N.R. and Zykov, M., 2013. Underwater Acoustic Modeling of Construction Activities: Marine Commerce South Terminal in New Bedford, MA. JASCO Document 00420, Version 4.0. Technical report by JASCO Applied Sciences for Apex Companies, LCC.
- Matkin, C.O., Saulitis, E.L., Ellis, G.M., Olesiuk, P. and Rice, S.D., 2008. Ongoing population-level impacts on killer whales *Orcinus orca* following the 'Exxon Valdez' oil spill in Prince William Sound, Alaska. *Marine Ecology Progress Series* 356: 269–281.

- McCauley, R., 1998. Radiated underwater noise measured from the drilling rig Ocean General, rig tenders Pacific Ariki and Pacific Frontier, fishing vessel Reef Venture and natural sources in the Timor Sea, Northern Australia. (Report No. C98-20). Centre for Marine Science and Technology, Curtin University of Technology, Perth.
- McCauley, R.D., 2002. Underwater noise generated by the Cossack Pioneer FPSO and its translation to the proposed Vincent petroleum field. Centre for Marine Science and Technology, Curtin University of Technology, Perth.
- McCauley, R., 2005. Underwater sea noise in the Otway Basin – drilling, seismic and blue whales, Oct–Dec 2003, in: Howell, E. (Ed.), A Compilation of Recent Research into the Marine Environment. Australian Petroleum Exploration Association, Canberra, pp. 18–19.
- McCauley, R., Fewtrell, J., Duncan, A., Jenner, M. and Penrose, J., 2000. Marine seismic surveys – A study of environmental implications. APPEA Journal 2000.
- McCauley, R. and Jenner, C., 2010. Migratory patterns and estimated population size of pygmy blue whales (*Balaenoptera musculus brevicauda*) traversing the Western Australian coast based on passive acoustics (International Whaling Commission Report No. SC/62/SH26). International Whaling Commission.
- McDonald, E.M. and Phillips, T., 2021. Report of an Ethnographic Consultation Regarding Woodside's Scarborough Gas Project & Submerged Landscape, Pilbara, Western Australia – Phase I. Report by Ethnoscience to Murujuga Aboriginal Corporation.
- McLean, D.L., Partridge, J.C., Bond, T., Birt, M.J., Bornt, K.R. and Langlois, T.J., 2017. Using industry ROV videos to assess fish associations with subsea pipelines. Continental Shelf Research 141: 76–97. doi:10.1016/j.csr.2017.05.006.
- McPherson, C.R., Wladichuk, J.L. and McCrodan, A., 2015. Acoustic Characterisation of Subsea Choke Valve: Results from North West Shelf measurements. Document Number 00963, Version 1.0. Technical report by JASCO Applied Sciences for Woodside Energy Ltd.
- McPherson, C.R., Wood, M.A. and Racca, R., 2016. Potential Impacts of Underwater Noise from Operation of the Barossa FPSO Facility on Marine Fauna, ConocoPhillips Barossa Project. Document 01117, Version 1.0. Technical report by JASCO Applied Sciences for Jacobs. Appendix N of Barossa Area Development Offshore Project Proposal. <https://static.conocophillips.com/files/resources/appendix-o-2.pdf>.
- Metzger, B.H., Salmond, D., Tilstone, A. and Battelle, S.P.E., 2010. FPSO Environmental Risk Management. Society of Petroleum Engineers International Conference paper, Rio, Brazil, 12-14 April 2010. URL: <http://www.onepetro.org/mslib/servlet/onepetroreview?id=SPE-126865-PA>.
- Milton, S.L. and Lutz, P.L., 2003. Physiological and genetic responses to environmental stress, in: Lutz, P.L., Musick, J.A., Wyneken, J. (Eds.), The Biology of Sea Turtles. CRC Press, Boca Raton, pp. 164–198.
- Mitkus, M., Nevitt, G.A. and Kelber, A., 2018. Development of the Visual System in a Burrow-Nesting Seabird: Leach's Storm Petrel. Brain Behaviour Evolution, 91: 4–16.
- Moein, S., Musick, J., Keinath, J., Barnard, D., Lenhardt, M. and George, R., 1994. Evaluation of seismic sources for repelling sea turtles from hopper dredges. South Atlantic, Atlanta, GA, and US Naval Submarine Base, Kings Bay, GA: In Sea Turtle Research Program, Summary Report. Prepared for US Army Engineer Division. Technical Report CERC-95, cited in Moein-Bartol SE. 2008.
- National Agricultural Catchments Council National Resources Management, 2021. Yued Aboriginal Connection to Coast – Education package for schools. NACC NRM publications.
- [NMFS] National Marine Fisheries Service (US), 2014. Marine mammals' acoustic thresholds guidance. National Marine Fisheries Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce. URL: http://www.westcoast.fisheries.noaa.gov/protected_species/marine_mammals/threshold_guidance.html.
- NMFS, 2018. 2018 Revision to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0): Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts. US Department of Commerce, NOAA. NOAA Technical Memorandum NMFS-OPR-59. 167.

NMFS, 2024. Update to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 3.0): Underwater and InAir Criteria for Onset of Auditory Injury and Temporary Threshold Shifts. U.S. Dept. of Commer., NOAA. NOAA Technical Memorandum NMFS-OPR-71, 182 p.

[NOAA] National Oceanic and Atmospheric Administration (2010). Oil and sea turtles: Biology, planning and response. National Oceanic and Atmospheric Administration, Washington.

[NOAA] National Oceanic and Atmospheric Administration, 2014. Oil spills in mangroves: Planning & response considerations. National Oceanic and Atmospheric Administration, Washington.

[NOAA] National Oceanic and Atmospheric Administration, 2018 Revision to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts. National Oceanic and Atmospheric Administration, Washington.

[NMFS] National Marine Fisheries Services. 2024. "Update to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 3.0): Underwater and In-Air Criteria for Onset of Auditory Injury and Temporary Threshold Shifts. ." NOAA Technical Memorandum NMFS-OPR-71.

[NOPSEMA] National Offshore Petroleum Safety and Environmental Management Authority 2019. Oil spill modelling bulletin, A652993, April 2019.

[NOPSEMA] National Offshore Petroleum Safety and Environmental Management Authority, 2019. Oil spill modelling bulletin.

NOPSEMA, 2020. Section 572 Maintenance and removal of property, Policy, N-00500-PL1903 A720369, 20/11/2020.

NOPSEMA, 2020. Information Paper: Reducing Marine Pest Biosecurity Risks through Good practice. Biofouling Management, N04750-IP1899, Rev 1, March 2020. URL: <https://www.nopsema.gov.au/resources/guidance-and-forms/information-papers/>.

[NRC] National Research Council (2003). Ocean Noise and Marine Mammals (National Academies Press, Washington, DC). 219 pp Ocean Noise and Marine Mammals | The National Academies Press

National Science Foundation, & U.S. Geological Survey. 2011. Programmatic Environmental Impact Statement / Overseas Environmental Impact Statement for Marine Seismic Research funded by the National Science Foundation or conducted by the U.S. Geological Survey. National Science Foundation. <https://d9-wret.s3.us-west-2.amazonaws.com/assets/palladium/production/s3fs-public/atoms/files/nsf-usgs-final-eis-oeis-with-appendices.pdf>

Neff, J., 2002. Bioaccumulation in Marine Organisms – Effect of Contaminants from Oil Well Produced Water. Elsevier, Amsterdam.

Neff, J., Lee, K. and DeBlois, E.M., 2011. Produced water: Overview of composition, fate and effects. In: Produced Water, Environmental Risks and Advances in Mitigation Technologies (Eds. Lee, K. and Neff, J.) pp 608. Springer New York.

Neff, J., McKelvie, S. and Ayers, Jr, R., 2000. Environmental impacts of synthetic based drilling fluids. Los Angeles: report prepared for minerals Management Service by Robert Ayers and Associates Incorporated, U.S. Department of Interior, Minerals Management Services, Gulf of Mexico OCS Region, OCS Study MMS 2000-064.

Negri, A.P. and Heyward, A.J., 2000. Inhibition of fertilization and larval metamorphosis of the coral *Acropora milleproa* (Ehrenberg, 1834) by petroleum products. Marine Pollution Bulletin, 41: 420–427.

Newman, S., Wakefield, C., Skepper, C., Boddington D. and Steele, A., 2020. North Coast Demersal Fisheries Status Report 2020. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2019/20: The State of the Fisheries eds. D.J. Gaughan and K. Santoro. Department of Primary Industries and Regional Development, Western Australia. pp. 156–165.

Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. (eds), 2021. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2020/21: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia.

O'Hara, J. and Wilcox, J., 1990. Avoidance responses of loggerhead turtles, *Caretta caretta*, to low frequency sound. Copeia 1990(2).

- O'Leary, M.J., Paumard, V. and Ward, I., 2020. Exploring Sea Country through High-Resolution 3D Seismic Imaging of Australia's NW Shelf: Resolving Early Coastal Landscapes and Preservation of Underwater Cultural Heritage. *Quaternary Science Reviews* 239, 106353.
- Oil & Gas UK, 2014. Guidance on risk related decision making (Issue No. 2). United Kingdom Offshore Operators Association, London.
- National Oceanic and Atmospheric Administration, 2010. Oil and sea turtles: Biology, planning and response. National Oceanic and Atmospheric Administration, Washington.
- OSPAR Commission, 2021. OSPAR List of Substances Used and Discharged Offshore which Are Considered to Pose Little or No Risk to the Environment (PLONOR) – Update 2021. Agreement 2013-06. 9pp.
- Oxford Economics, 2010. Potential impact of the Gulf oil spill on tourism. Oxford Economics, Oxford.
- Pendoley, K., 2000. The influence of gas flares on the orientation of green turtle hatchlings at Thevenard Island, Western Australia, in: *Proceedings of the 2nd ASEAN Symposium and Workshop on Sea Turtle Biology and Conservation*. Presented at the 2nd ASEAN Symposium and Workshop on Sea Turtle Biology and Conservation, ASEAN Academic Press, Kota Kinabalu, pp. 130–142.
- Pendoley Environmental, 2020a. Dorado FPSO Light Modelling. Unpublished report.
- Pendoley Environmental, 2020b. Scarborough Desktop Lighting Impact Assessment. Unpublished report prepared by Pendoley Environmental Pty for Advisian, February 2020.
- Pendoley Environmental, 2021. Ningaloo Lighthouse Resort Development: Artificial Light Assessment and Management Plan. Prepared by Pendoley Environmental Pty Ltd for Northwest Resorts, April 2021. 102 pp.
- Pendoley Environmental, 2023 Scarborough Desktop Lighting Impact Assessment. Unpublished report prepared by Pendoley Environmental Pty for Advisian, February 2020.
- Polgaze, J., 2003. Can we always ignore ship-generated food waste? *Marine Pollution Bulletin* 46.
- Poot, H., Ens, B., de Vries, H., Donners, M., Wernand, M. and Marquenie, J., 2008. Green light for nocturnally migrating birds. *Ecology and Society* 13(2).
- Popper, A.N., Hawkins, A.D., Fay, R., Mann, D., Bartol, S., Carlson, T., Coombs, S., Ellison, W., Gentry, R., Halvorsen, M., Løkkeborg, S., Rogers, P., Southall, B., Zeddies, D. and Tavalga, W., 2014. Sound exposure guidelines for fishes and sea turtles: a technical report. Prepared by ANSI-Accredited Standards Committee S3/SC1 and Registered with ANSI. 978-3-319-06658-5. Springer International Publishing, New York, USA.
- Post, A., Przeslawski, R., Huang, Z., Smith, D., Kirkendale, L. and Wilson, N., 2021. An Eco-Narrative of the Gascoyne Marine Park, North-West Marine Region. Report to the National Environmental Science Program, Marine Biodiversity Hub. Geoscience Australia.
- Richardson, W.J., Greene Jr, C.R., Malme, C.I. and Thomson, D.H., 1995. *Marine Mammals and Noise*. Academic Press, San Diego.
- Ritchie, E.G. and Bolitho, E.E., 2008. Australia's savanna herbivores: bioclimatic distributions and an assessment of the potential impact of regional climate change. *Physiological and Biochemical Zoology*, 81(6): 880–890.
- Rodriguez, A., Holmes, N.D., Ryan, P.G., Wilson, K-J., Faulquier, L., Murillo, Y., Raine, A.F., Penniman, J.F., Neves, V., Rodriguez, B., Negro, J.J., Chiaradia, A., Dann, P., Anderson, T., Metzger, B., Shirai, M., Deppe, L., Wheeler, J., Hodum, P., Gouveia, C., Carmo, V., Carreira, G.P., Delgado-Alburquerque, L., Guerra-Correa, C., Couzi, F-X., Travers, M. and Corre, M.L., 2017. Seabird mortality induced by land-based artificial lights. *Conservation Biology*, 31: 986–1,001.
- Rolland, R.M., Parks, S.E., Hunt, K.E., Castellote, M., Corkeron, P.J., Nowacek, D.P., Wasser, S.K. and Kraus, S.D., 2012. Evidence that ship noise increases stress in right whales. *Proc.R.Soc.B Biol.Scie.*, 27, 2,363–2,368.
- Romero, I.C., Schwing, P.T., Brooks, G.R., Larson, R.A., Hastings, D.W., Ellis, G., Goddard, E.A. and Hollander, D.J., 2015. Hydrocarbons in deep-sea sediments following the 2010 Deepwater Horizon blowout in the northeast Gulf of Mexico. *PLOS ONE*, 10: e0128371. <https://doi.org/10.1371/journal.pone.0128371>.
- RPS APASA, 2023. Woodside Pyrenees Venture FPSO Ops QSRA, Preliminary Results. Prepared for Woodside. Doc No MAW1315J.000. August 2023.

RPS Environment and Planning, 2010a. Humpback whale monitoring survey, North West Cape (Report No. M10357 Rev 0). RPS Environment and Planning Pty Ltd, Subiaco.

RPS, 2018. Pyrenees Venture FPSO – Produced Formation Water Dispersion Modelling Variation. Prepared for BHP. Doc No MAQ619J.001 Rev1. October 2018.

RPS, 2025. Woodside Pyrenees Venture FPSO – PFW Dispersion Modelling. Prepared for Woodside. Doc No PER380237. Rev0. February 2025.

Runcie, J., Macinnis-Ng, C. and Ralph, P., 2010. The toxic effects of petrochemicals on seagrasses – literature review. Institute for Water and Environmental Resource Management, University of Technology Sydney, Sydney.

Saunders, D. and de Rebeira, C.P., 1985. Turnover in Breeding Bird Populations on Rottnest Island Western Australia. Australian Wildlife Research 12(3) 467–477.

Scandpower, 1999. Appendix A Data Dossier, Blowout Frequency Data. Scandpower A/S.

Shigenaka, G., 2001. Toxicity of oil to reef building corals: a spill response perspective (NOAA Technical Memorandum No. NOS OR&R 8). National Oceanic and Atmospheric Administration, Seattle.

Simmonds, M., Dolman, S. and Weilgart, L., 2004. Oceans of noise, WDCS Science Report. Whale and Dolphin Conservation Society, Chippenham.

SINTEF, 2017. SINTEF Offshore Blowout Database – SINTEF [WWW Document]. SINTEF Offshore Blowout Database. URL <https://www.sintef.no/en/projects/sintef-offshore-blowout-database/> (accessed 8.17.17).

SKM, 2013. Offshore Marine Discharges Study – Modelling and Sedimentation Analysis. Report prepared for Woodside Energy Ltd.

SKM, 2006. North West Shelf Cumulative Environmental Impact Study, Offshore Marine Environmental Survey, Drilling Impacts and Recovery.

Sleeman, J.C., Meekan, M.G., Wilson, S.G., Jenner, C.K.S., Jenner, M.N., Boggs, G.S., Steinberg, C.C. and Bradshaw, C.J.A., 2007. Biophysical correlates of relative abundances of marine megafauna at Ningaloo Reef, Western Australia. Marine and Freshwater Research, 58: 608–623.

Smale, D. and Childs, S., 2011. The occurrence of a widespread marine invader, *Didemnum perlucidum* (Tunicata, Ascidiacea) in Western Australia. Biological Invasions, 14: 1,325–1,330.

Smallwood, C., 2009. Spatial and temporal patterns of recreational use at Ningaloo Reef, north western Australia. Thesis presented for degree of Doctor of Philosophy, Murdoch University.

Smallwood, C.B., Beckley, L.E., Moore, S.A. and Kobryn, H.T., 2011. Assessing patterns of recreational use in large marine parks: A case study from Ningaloo Marine Park, Australia. Ocean and Coastal Management 54: 330–340. doi:10.1016/j.ocecoaman.2010.11.007

Smyth, D., 2007. Sea Countries of the North-West: Literature review on Indigenous connection to and uses of the North West Marine Region. Department of the Environment, Water, Heritage and the Arts. National Oceans Office. Smyth and Bahrdt Consultants. URL <https://parksaustralia.gov.au/marine/management/resources/scientific-publications/sea-countries-north-west/>.

Southall, B.L., Bowles, A.E., Ellison, W.T., Finneran, J.J., Gentry, R.L., Greene, C.R., Kastak, D., Ketten, D.R., Miller, J.H., Nachtigall, P.E., Richardson, W.J., Thomas, J.A. and Tyack, P.L., 2007. Marine mammal noise exposure criteria: Initial scientific recommendations. Aquatic mammals, 33: 411–414.

Southall, B.L., Finneran, J.J., Reichmuth, C., Nachtigall, P.E., Ketten, D.R., Bowles, A.E., Ellison, W.T., Nowacek, D.P. and Tyack, P.L., 2019. Marine mammal noise exposure criteria: updated scientific recommendations for residual hearing effects. Aquatic Mammals 2019, 45(2), 125-232, DOI 10.1578/AM.45.2.2019.125

Steffen, W., Burbidge, A.A., Hughes, L., Kitching, R., Lindenmayer, D., Musgrave, W., Stafford Smith, M. and Werner, P., 2009. Australia's biodiversity and climate change: A strategic assessment of vulnerability of Australia's biodiversity to climate change. A report to the Natural resource Management Ministerial Council commissioned by Australian Government. CSIRO Publishing.

Strain, L., Fabris, F. and Blay, N., 2023a. South Coast Greenlip/Brownlip Abalone Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the

- Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 207–212.
- Surman, C.A., Nicholson, L.W. and Philipps, R.A., 2018. Distribution and patterns of migration of a tropical seabird community in the Eastern Indian Ocean. *Journal of Ornithology* 158: 867–877.
- SWALSC, South West Aboriginal Land and Sea Council 2025. Kaartdijin Noongar - Noongar Knowledge Sharing Noongar Culture. South West Aboriginal Land and Sea Council. Accessed at <https://www.noongarculture.org.au/whadjuk/>
- SLWASC. South West Aboriginal Land and Sea Council 2024. Pre Contact - Noongar Culture. Accessed at <https://www.noongarculture.org.au/wagyl-kaip-pre-contact/>
- Taylor, J.G., 2007. Ram filter-feeding and nocturnal feeding of whale sharks (*Rhincodon typus*) at Ningaloo Reef, Western Australia. *Fisheries Research* 84: 65–70.
- Vanderlaan, A.S.M., Taggart, C.T., 2007. Vessel collisions with whales: the probability of lethal injury based on vessel speed. *Marine Mammal Science* 23: 144–156. doi:10.1111/j.1748-7692.2006.00098.x.
- Telfer, T.C., Sincok, J.L., Byrd, G.V. and Reed, J.R., 1987. Attraction of Hawaiian seabirds to lights: conservation efforts and effects of moon phase. *Wildlife Society Bulletin*, 15: 406–413.
- Theobald, P., Lepper, P., Robinson, S. and Hazelwood, D., 2009. Cumulative noise exposure assessment for marine mammals using sound exposure level as a metric. Report by National Physics Laboratory, Middlesex, United Kingdom. URL: <http://promitheas.iacm.forth.gr/uam2009/lectures/pdf/27-3.pdf>.
- Thomson, J. and Heimann, K., 2014. Characterising the major Australian submarine canyons. *Deep-Sea Research Part II: Topical Studies in Oceanography*, 104, 6–21. doi:10.1016/j.dsr2.2013.07.024.
- [TSSC] Threatened Species Scientific Committee (2015a). Conservation Advice *Rhincodon typus* whale shark. Canberra: Department of the Environment. Canberra
- [TSSC] Threatened Species Scientific Committee (2015b). Conservation advice *Megaptera novaeangliae* humpback whale. Department of the Environment, Canberra.
- Tomajka, J., 1985. The influence of petroleum hydrocarbons on the primary production of the Danube River plankton. *Acta Hydrochimica et Hydrobiologica*, 13: 615–618.
- Tourism WA. 2023. Visitor statistics. Government of Western Australia. Tourism Western Australia. Perth. Accessed August 2023. URL https://www.tourism.wa.gov.au/Markets-and-research/Latest-tourism-statistics/Pages/Visitor-statistics.aspx#.
- Tourism Research Australia, 2023. Overview of Visitation to Western Australia – YE March 2023. Government of Western Australia. Tourism Western Australia. Perth. URL <https://www.tourism.wa.gov.au/Publications%20Library/Markets%20and%20research/2023/IVS%20NVS/Overview%20of%20Visitation%20to%20WA%20-%20YE%20Mar%202023.pdf>.
- Underwood, J.N., 2009. Genetic diversity and divergence among coastal and offshore reefs in a hard coral depend on geographic discontinuity and oceanic currents. *Evolutionary Applications*, 2: 222–233. <https://doi.org/10.1111/j.1752-4571.2008.00065.x>
- US Environmental Protection Authority, 1999. US Uniform National Discharge Standards.
- [UWA] University of Western Australia, 2021. Scarborough Pipeline Cultural Heritage Assessment: Establishing Archaeological Potential and Significance. Technical report by UWA for Woodside Energy Limited.
- Valeur, J.R. and Petersen, J., 2013. Use of the ALARP Principle for evaluating environmental risks and impacts of produced-water discharged to sea. *Oil and Gas facilities*, 2(6), 92–100.
- Vanderlaan, A.S.M. and Taggart, C.T., 2007. Vessel collisions with whales: the probability of lethal injury based on vessel speed. *Marine Mammal Science*, 23: 144–156. <https://doi.org/10.1111/j.1748-7692.2006.00098.x>.
- Veth, P., McDonald, J., Ward, I., O’Leary, M., Beckett, E., Benjamin, J., Ulm, S., Hacker, J., Ross, P. and Bailey, G., 2019. A Strategy for Assessing Continuity in Terrestrial and Maritime Landscapes from Murujuga (Dampier Archipelago), North West Shelf, Australia. *The Journal of Island and Coastal Archaeology* 15(4): 477–503. <https://doi.org/10.1080/15564894.2019.1572677>.

- Western Australian Petroleum, 1995. Spectral measurement of illumination sources at Thevenard Island, report prepared by Remote Sensing of Mine Environment for Western Australian Petroleum Pty Ltd.
- Walker, M.I. and Rose, K.S.B., 1990. The Radioactivity of the Sea. *Nuclear Energy* 29, 267–278.
- Walker, D.I. and McComb, A.J., 1990. Salinity Response of the Seagrass *Amphibolis-Antarctica* (Labill) Sonder Et Aschers – an Experimental Validation of Field Results. *Aquatic Botany*, 36, 359–366.
- Ward, I., Larcombe, P., Ross, P. and Fandry, C., 2022. Applying geoarchaeological principles to marine archaeology: A reappraisal of the “first marine” and “in situ” lithic scatters in the Dampier Archipelago, NW Australia. *Geoarchaeology* 37, 783–810. <https://doi.org/10.1002/gea.21917>.
- Warne, M.St.J., Batley, G.E., van Dam, R.A., Chapman, J.C., Fox, D.R., Hickey, C.W. and Stauber, J.L., 2018. Revised Method for Deriving Australian and New Zealand Water Quality Guideline Values for Toxicants – updated of 2015 version. Prepared for the revision of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra, 48.
- Weilgart, L.S., 2007. A brief review of known effect of noise on marine mammals. *International Journal of Comparative Psychology*, 20 (2–3), 159–168.
- Williams, A., Ulm, S., Sapienza, T., Lewis, S. and Turney, C., 2018. Sea-level change and demography during the last glacial termination and early Holocene across the Australian continent. *Quaternary Science Review* 182, 144–154. <https://doi.org/10.1016/j.quascirev.2017.11.030>.
- Whitlock, P., Pendoley, K. and Hamann, M., 2014. Inter-nesting distribution of flatback turtles *Natator depressus* and industrial development in Western Australia. *Endangered Species Research* 26: 25–38. doi:10.3354/esr00628.
- Windle, A.E., Hooley, D.S. and Johnston, D.W., 2018. Robotic vehicles enable high-resolution light pollution sampling of sea turtle nesting beaches. *Frontiers in Marine Science*, 5, 493.
- Witherington, B.E., 1992. Behavioural response of nesting sea turtles to artificial lighting. *Herpetologica*, vol 48, no 1, pp. 31–39.
- Woodside, 2022. Proposed Browse to North West Shelf Project Environmental Impact Statement. Available at <https://www.woodside.com/what-we-do/developments-and-exploration/browse>.
- WorleyParsons, 2015. BHP Pyrenees Venture FPSO Facility: water quality monitoring report 2015 (September 2015). Report completed for BHP. Yender, R., Michel, J., Lord, C., 2002. Managing seafood safety after and oil spill. National Oceanic and Atmospheric Administration, Seattle.
- Zieman, J.C., Orth, R., Phillips, R.C., Thayer, G. and Thorhaug, A., 1984. Effects of oil on seagrass ecosystems. In: Cairns Jr., J., Buikema, A.L. (Eds.), *Restoration of Habitats Impacted by Oil Spills*. Butterworth-Heinemann, Boston, pp. 37–64.

9 LIST OF TERMS AND ACRONYMS

Acronym	Description
@	at
~	approximately
°C	degrees Celsius
<	less/fewer than
>	greater/more than
≤	less than or equal to
≥	greater than or equal to
µm	micrometre
3D	three-dimensional
ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
ABS	American Bureau of Shipping
AFC	antifouling coating
AFMA	Australian Fisheries Management Authority
AHO	Australian Hydrographic Office
AIS	Automatic Identification System
ALARP	as low as reasonably practicable
AMP	Australian Marine Park
AMSA	Australian Maritime Safety Authority
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality
API	American Petroleum Institute
AR6	Sixth Assessment Report
AUV	autonomous underwater vehicle
bbl/d	barrels per day
BIA	biologically important area
Bq/L	becquerels per litre, used to measure the concentration of radioactive material in a liquid
BTAC	Buurabalayji Thalanyji Aboriginal Corporation
BTEX	benzene, toluene, ethylbenzene and xylenes
CAES	Catch and Effort System
CCR	central control room
CFU	compact floatation unit
CIMT	Corporate Incident Management team
cm	centimetre
cm ³	cubic centimetre
CO ₂	carbon dioxide
CoP	cessation of production
Cp	centipoise
CS	cost sacrifice

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Acronym	Description
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CV	company value
dB re 1 μ Pa	decibels relative to one micropascal; the unit used to measure the intensity of an underwater sound
DBCA	Department of Biodiversity, Conservation and Attractions
DECC	Department of Energy and Climate Change
DFAT	Department of Foreign Affairs and Trade
DGF	dissolved gas floatation unit
DGV	default guideline values
DNP	Director of National Parks
DoE	Department of the Environment
DP	dynamic positioning
DPIRD	Department of Primary Industry and Regional Development
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities
DTM	disconnectable turret mooring
DTMI	Western Australian Department of Transport and Major Infrastructure
EMBA	environment that may be affected
ENVID	environment identification (study)
Environment Regulations	Commonwealth <i>Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023</i>
EOFL	end of field life
EP	Environment Plan
EPA	Environmental Protection Authority
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPO	environmental performance objective
EPS	environment performance standard
ERP	Emergency Response Plan
ESD	ecologically sustainable development
ESDV	emergency shutdown valve
FCA/FCAFC	Federal Court of Australia – Full Court
FPSO	floating production, storage and offtake
FST	functional support team
FY	financial year
g	gram
GP	good practice
GWS	Global Wells and Seismic
habitat critical	habitat critical to the survival of a species
HAZID	hazard identification (study)
HF	high frequency
HP	high pressure

Acronym	Description
HSE	health, safety, and environment
ICOMOS	International Council on Monuments and Sites
ICS	Incident Command System
ILUA	Indigenous Land Use Agreement
IMMR	inspection, maintenance, monitoring, and repair
IMO	International Maritime Organization
IMS	invasive marine species
IMSMA	IMS Management Area
IMT	Incident Management team
IPA	Indigenous Protected Area
IPCC	Intergovernmental Panel on Climate Change
IPIECA	International Petroleum Industry Environmental Conservation Association
ISO	International Organization for Standardization
ITOPF	International Tanker Owners Pollution Federation
IUCN	International Union for Conservation of Nature
KEF	key ecological feature
kg	kilogram
kHz	kilohertz
km	kilometre
kn	knot
KO	knock out (drum)
kPa(g)	kilopascal gauge
kW	kilowatt
L	litre
LCS	legislation, codes and standards
LF	low frequency
LNG	liquefied natural gas
LP	low pressure
LTO	Licence to Operate
m	metre
m/s	metres per second
m ²	square metre
m ³	cubic metre
MAC	Murujuga Aboriginal Corporation
MARPOL	<i>International Convention for the Prevention of Pollution From Ships 1973</i> , as modified by the Protocol of 1978
MBES	multi-beam echo sounder
MC	measurement criteria
MCL	Murujuga Cultural Landscape

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Acronym	Description
MFO	Marine Fauna Observer
mg	milligram
ml	millilitre
mm	millimetre
MMSCFD	million standard cubic feet per day
MNES	matters of national environmental significance
MODU	mobile offshore drilling unit
MoU	Memorandum of Understanding
MP	Marine Park
MPA	Marine Protected Area
n.d.	no date
N/A	not applicable
N ₂ O	nitrous oxide
NAC	Ngarluma Aboriginal Corporation
NGER	National Greenhouse and Energy Reporting
NIMS	non-indigenous marine species
nm	nanometre
NM	nautical mile
NOAA	US National Oceanic and Atmospheric Administration
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NORMs	naturally occurring radioactive materials
NPI	National Pollutant Inventory
NWMR	North-west Marine Region
NWS	North West Shelf
OCIMF	Oil Companies International Marine Forum
OCNS	Offshore Chemical Notification Scheme
OGCI Near-Zero	Oil and Gas Climate Initiative Aiming for Zero Methane Emissions
OGMP	Oil and Gas Methane Partnership
OIM	Offshore Installation Manager
OIW	oil in water
OMDAMP	Offshore Marine Discharge Adaptive Management Plan
OPEP	Oil Pollution Emergency Plan
OPGGS Act	Commonwealth <i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i>
OSPAR	Oslo–Paris Convention for the Protection of the Marine Environment of the North East Atlantic
OSV	offshore support vessel
OUV	outstanding universal values
OVID	Offshore Vessel Inspection Database
OVMSA	Offshore Vessel Safety Management System assessment

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Acronym	Description
PAH	polycyclic aromatic hydrocarbon
PBC	Prescribed Body Corporate
pcs	pieces
PetDW	Petroleum Deepwater
pH	measure of acidity or basicity of a solution
PJ	professional judgement
PMST	Protected Matters Search Tool
ppb	parts per billion
ppm	parts per million
ppt	parts per thousand
PSZ	Petroleum Safety Zone
PTS	permanent threshold shift
PW	produced water
RBA	risk-based analysis
RBI	risk-based inspection
rms	root mean square
ROV	remotely operated vehicle
SCSC	Source Control Section Chief
SEL	sound exposure level
SEL _{24h}	SEL within a 24-hour period
SFRT	Subsea First Response Toolkit
SIMAP	spill impact mapping and analysis program
SIMOPS	simultaneous operations
SKM	Sinclair Knight Mertz (company)
sm ³	standard cubic metres
SMPEP	Shipboard Marine Pollution Emergency Plan
SOPEP	Shipboard Oil Pollution Emergency Plan
SPL	sound pressure level
SSIV	subsea isolation valve
SSS	side scan sonar
STB/D	standard tank barrels per day
SV	societal value
SWALSC	South West Aboriginal Land and Sea Council
T	tonne
tCO _{2e}	tonnes of carbon dioxide equivalents
TEG	triethylene glycol
TN	total nitrogen
TP	total phosphorus
TPH	total petroleum hydrocarbons

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Acronym	Description
TRH	total recoverable hydrocarbons
TTS	temporary threshold shift
TSSC	Threatened Species Scientific Committee
UCH	Underwater Cultural Heritage
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
UPS	uninterruptible power supply; battery power system
US EPA	United States Environmental Protection Agency
uSv/h	microsieverts per hour, indicates the amount of radiation absorbed per hour
UWA	University of Western Australia
UXO	unexploded ordnances
VHF	very high frequency
VOC	volatile organic compound
VP	Vice President
WA	Western Australia
WAFIC	Western Australian Fishing Industry Council
WET	whole effluent toxicity
WGS84	World Geodesic System 1984
WMS	Woodside Management System
Woodside	Woodside Energy Limited
WOMP	Well Operations Management Plan
YMAC	Yamatji Marlpa Aboriginal Corporation

APPENDIX A: WOODSIDE ENVIRONMENT AND BIODIVERSITY POLICY

WOODSIDE POLICY



Environment and Biodiversity Policy

OBJECTIVE

Woodside recognises the intrinsic value of nature and the importance of conserving biodiversity and ecosystem services to support the sustainable development of our society. We are committed to doing our part. We understand and embrace our responsibility to undertake activities in an environmentally sustainable way.

PRINCIPLES

Woodside commits to:

- Implementing a systematic approach to the management of the impacts and risks of our operating activities on an ongoing basis, including emissions and air quality, discharge and waste management, water management, biodiversity and protected areas.
- Applying the mitigation hierarchy principle (avoid, minimise, restore) and a continuous improvement approach to ensure we maintain compliance, improve resource use efficiency and reduce our environmental impacts.
- Embedding environmental and biodiversity management, and opportunities, in our business planning and decision making processes.
- Complying with relevant laws and regulations and applying responsible standards where laws do not exist.
- Not undertaking new exploration or development of hydrocarbons within the boundaries of natural sites on the UNESCO World Heritage List (as specified at 1 December 2022). Existing activity may continue if compatible with maintenance of the listed outstanding universal values.
- Not undertaking new exploration or development of hydrocarbons within IUCN Protected Areas (as specified at 1 December 2022) unless compatible with management plans in place for the area. Existing activity may continue if compatible with management plans in place for the area.
- Achieving net zero deforestation¹ associated with new projects that take a Final Investment Decision (FID) after 1 December 2022.
- Developing Biodiversity Action Plans for all new major projects (CAPEX >USD\$2 billion) that take a FID after 1 December 2022.
- Supporting positive biodiversity outcomes in regions and areas in which we operate.
- Setting targets and publicly reporting on our environmental and biodiversity performance.

APPLICABILITY

Responsibility for the application of this Policy rests with all Woodside employees, contractors and joint venturers engaged in activities under Woodside operational control. Woodside managers are also responsible for promotion of this Policy in non-operated joint ventures.

This Policy will be reviewed regularly and updated as required.

Approved by the Woodside Energy Group Ltd Board in December 2022.

¹ Definition of Forest: 'trees higher than 5 metres and a canopy cover of more than 10 percent on the land to be cleared'.

APPENDIX B: RELEVANT REQUIREMENTS

The below table refers to Commonwealth legislation related to the project.

Commonwealth legislation	Legislation summary
<i>Air Navigation Act 1920</i> <i>Air Navigation Regulations 1947</i> <i>Air Navigation (Aerodrome Flight Corridors) Regulations 1994</i> <i>Air Navigation (Aircraft Engine Emissions) Regulations 1995</i> <i>Air Navigation (Aircraft Noise) Regulations 1984</i> <i>Air Navigation (Fuel Spillage) Regulations 1999</i>	This Act relates to the management of air navigation.
<i>Australian Maritime Safety Authority Act 1990</i>	This Act establishes a legal framework for the AMSA, which represents the Australian Government and international forums in the development, implementation and enforcement of international standards including those governing ship safety and marine environment protection. AMSA is responsible for administering the Marine Orders in Commonwealth waters.
<i>Australian Radiation Protection and Nuclear Safety Act 1998</i>	This Act relates to the protection of the health and safety of people, and the protection of the environment from the harmful effects of radiation.
<i>Biosecurity Act 2015</i> <i>Quarantine Regulations 2000</i> <i>Biosecurity Regulation 2016</i> <i>Australian Ballast Water Management Requirements 2017</i> <i>Biosecurity Amendment (Biofouling Management) Regulations 2021</i>	This Act provides the Commonwealth with powers to take measures of quarantine, and implement related programs as are necessary, to prevent the introduction of any plant, animal, organism or matter that could contain anything that could threaten Australia's native flora and fauna or natural environment. The Commonwealth's powers include powers of entry, seizure, detention and disposal. This Act includes mandatory controls on the use of seawater as ballast in ships and the declaration of sea vessels voyaging out of and into Commonwealth waters. The Regulations stipulate that all information regarding the voyage of the vessel and the ballast water is declared correctly to the quarantine officers. The Biofouling Management Regulations requires ships to report information about biofouling management and the voyage history of the ship in the past 12 months through a pre-arrival report.
<i>Environment Protection and Biodiversity Conservation Act 1999</i> <i>Environment Protection and Biodiversity Conservation Regulations 2000</i>	This Act protects matters of national environmental significance (NES). It streamlines the national environmental assessment and approvals process, protects Australian biodiversity and integrates management of important natural and culturally significant places. Under this Act, actions that may be likely to have a significant impact on matters of NES must be referred to the Minister for the Environment and Water
<i>Environment Protection (Sea Dumping) Act 1981</i> <i>Environment Protection (Sea Dumping) Regulations 1983</i>	This Act provides for the protection of the environment by regulating dumping matter into the sea, incineration of waste at sea and placement of artificial reefs.
<i>Industrial Chemicals (Notification and Assessment Act) 1989</i> <i>Industrial Chemicals (Notification and Assessment) Regulations 1990</i>	This Act creates a national register of industrial chemicals. The Act also provides for restrictions on the use of certain chemicals which could have harmful effects on the environment or health.

Commonwealth legislation	Legislation summary
<i>National Environment Protection Measures (Implementation) Act 1998</i> <i>National Environment Protection Measures (Implementation) Regulations 1999</i>	This Act and Regulations provide for the implementation of National Environment Protection Measures (NEPMs) to protect, restore and enhance the quality of the environment in Australia and ensure that the community has access to relevant and meaningful information about pollution. The National Environment Protection Council has made NEPMs relating to ambient air quality, the movement of controlled waste between states and territories, the national pollutant inventory, and used packaging materials.
<i>National Greenhouse and Energy Reporting Act 2007</i> <i>National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015</i>	This Act and associated Rule establishes the legislative framework for the NGER Scheme for reporting greenhouse gas emissions and energy consumption and production by corporations in Australia.
<i>Navigation Act 2012</i> Marine Order 12 – Construction – subdivision and stability, machinery and electrical installations Marine Order 30 – Prevention of collisions Marine Order 47 – Offshore Industry units Marine Order 57 – Helicopter operations Marine Order 91 – Marine pollution prevention – oil Marine Order 93 – Marine pollution prevention – noxious liquid substances Marine Order 94 – Marine pollution prevention – packaged harmful substances Marine Order 96 – Marine pollution prevention – sewage Marine Order 97 – Marine pollution prevention – air pollution	This Act regulates navigation and shipping including Safety of Life at Sea (SOLAS). The Act will apply to some activities of the MODU and project vessels. This Act is the primary legislation that regulates ship and seafarer safety, shipboard aspects of marine environment protection and pollution prevention.
<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i> <i>Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023</i> <i>Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulations 2011</i> <i>Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009</i>	This Act is the principal Act governing offshore petroleum exploration and production in Commonwealth waters. Specific environmental, resource management and safety obligations are set out in the Regulations listed.
<i>Ozone Protection and Synthetic Greenhouse Gas Management Act 1989</i> <i>Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995</i>	This Act provides for measures to protect ozone in the atmosphere by controlling and ultimately reducing the manufacture, import and export of ozone depleting substances (ODS) and synthetic greenhouse gases, and replacing them with suitable alternatives. The Act will only apply to Woodside if it manufactures, imports or exports ozone depleting substances.
<i>Protection of the Sea (Powers of Intervention) Act 1981</i>	This Act authorises the Commonwealth to take measures for the purpose of protecting the sea from pollution by oil and other noxious substances discharged from ships and provides legal immunity for persons acting under an AMSA direction.

Commonwealth legislation	Legislation summary
<i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i> <i>Protection of the Sea (Prevention of Pollution from Ships) (Orders) Regulations 1994</i> Marine Order 91 – Marine pollution prevention – oil Marine Order 93 – Marine pollution prevention – noxious liquid substances Marine Order 94 – Marine pollution prevention – packaged harmful substances Marine Order 95 – Marine pollution prevention – garbage Marine Order 96 – Marine pollution prevention – sewage <i>Maritime Legislation Amendment (Prevention of Air Pollution from Ships) Act 2007</i> MARPOL Convention	This Act relates to the protection of the sea from pollution by oil and other harmful substances discharged from ships. Under this Act, discharge of oil or other harmful substances from ships into the sea is an offence. There is also a requirement to keep records of the ships dealing with such substances. The Act applies to all Australian ships, regardless of their location. It applies to foreign ships operating between 3 nautical miles (nm) off the coast out to the end of the Australian Exclusive Economic Zone (200 NM). It also applies within the 3 NM of the coast where the State/Northern Territory does not have complementary legislation. All the Marine Orders listed, except for Marine Order 95, are enacted under both the Navigation Act 2012 and the Protection of the Sea (Prevention of Pollution from Ships) Act 1983. This Act is an amendment to the Protection of the Sea (Prevention of Pollution from Ships) Act 1983. This amended Act provides the protection of the sea from pollution by oil and other harmful substances discharged from ships.
Protection of the Sea (Harmful Antifouling Systems) Act 2006 Marine order 98—(Marine pollution—anti-fouling systems)	This Act relates to the protection of the sea from the effects of harmful anti-fouling systems. It prohibits the application or reapplication of harmful anti-fouling compounds on Australian ships or foreign ships that are in an Australian shipping facility.

APPENDIX C: EPBC ACT PROTECTED MATTERS SEARCH TOOL RESULTS



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 26-Jun-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	2
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	26
Listed Migratory Species:	40

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	61
Whales and Other Cetaceans:	26
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	1

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	22
Key Ecological Features (Marine):	3
Biologically Important Areas:	7
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Commonwealth Marine Area

[Resource Information]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)

Listed Threatened Species

[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Phaethon rubricauda westralis](#)
Red-tailed Tropicbird (Indian Ocean),
Indian Ocean Red-tailed Tropicbird
[91824]

Endangered

Species or species
habitat may occur
within area

[Sternula nereis nereis](#)
Australian Fairy Tern [82950]

Vulnerable

Foraging, feeding or
related behaviour
likely to occur within
area

[Thalassarche carteri](#)
Indian Yellow-nosed Albatross [64464]

Vulnerable

Species or species
habitat may occur
within area

FISH

[Thunnus maccoyii](#)
Southern Bluefin Tuna [69402]

Conservation
Dependent

Species or species
habitat known to
occur within area

MAMMAL

[Balaenoptera borealis](#)
Sei Whale [34]

Vulnerable

Species or species
habitat likely to occur
within area

[Balaenoptera musculus](#)
Blue Whale [36]

Endangered

Species or species
habitat likely to occur
within area

[Balaenoptera physalus](#)
Fin Whale [37]

Vulnerable

Species or species
habitat likely to occur
within area

[Eubalaena australis](#)
Southern Right Whale [40]

Endangered

Species or species
habitat likely to occur
within area

REPTILE

[Caretta caretta](#)
Loggerhead Turtle [1763]

Endangered

Congregation or
aggregation known to
occur within area

[Chelonia mydas](#)
Green Turtle [1765]

Vulnerable

Species or species
habitat known to
occur within area

Scientific Name	Threatened Category	Presence Text
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Congregation or aggregation known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area

SHARK		
Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		

Scientific Name	Threatened Category	Presence Text
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat may occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat may occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Congregation or aggregation known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Congregation or aggregation known to occur within area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sousa sahalensis as Sousa chinensis Australian Humpback Dolphin [87942]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Tursiops aduncus (Arafura/Timor Sea populations)		
Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus		
Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species	[Resource Information]	
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Anous stolidus		
Common Noddy [825]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
Fish		
Acentronura larsonae Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
Bulbonaricus brauni Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys latispinosus Muiron Island Pipefish [66196]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Doryrhamphus multiannulatus Many-banded Pipefish [66717]		Species or species habitat may occur within area
Doryrhamphus negrosensis Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Festucalex scalaris Ladder Pipefish [66216]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Phoxocampus belcheri Black Rock Pipefish [66719]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Reptile		
Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Aipysurus laevis Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
Aipysurus mosaicus as Aipysurus eydouxii Mosaic Sea Snake [87261]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Congregation or aggregation known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Ephalophis greyae as Ephalophis greyi Mangrove Sea Snake [93738]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Congregation or aggregation known to occur within area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Sousa sahalensis Australian Humpback Dolphin [87942]		Species or species habitat may occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
Aug - Sep		
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Action clearly unacceptable			
Highlands 3D Marine Seismic Survey	2012/6680	Action Clearly Unacceptable	Completed
Controlled action			
Development of Stybarrow petroleum field incl drilling and facility installation	2004/1469	Controlled Action	Post-Approval
Enfield full field development	2001/257	Controlled Action	Post-Approval
Greater Enfield (Vincent) Development	2005/2110	Controlled Action	Post-Approval
Pyrenees Oil Fields Development	2005/2034	Controlled Action	Post-Approval
Not controlled action			
Exploration drilling well WA-155-P(1)	2003/971	Not Controlled Action	Completed
Exploration Well in Permit Area WA-155-P(1)	2002/759	Not Controlled Action	Completed
Exploratory drilling in permit area WA-225-P	2001/490	Not Controlled Action	Completed
HCA05X Macedon Experimental Survey	2004/1926	Not Controlled Action	Completed
Subsea Gas Pipeline From Stybarrow Field to Griffin Venture Gas Export Pipeline	2005/2033	Not Controlled Action	Completed
Not controlled action (particular manner)			
CVG 3D Marine Seismic Survey	2012/6654	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Huzzas phase 2 marine seismic survey, Exmouth Plateau, Northern Carnarvon Basin, WA	2013/7093	Not Controlled Action (Particular Manner)	Post-Approval
Laverda 3D Marine Seismic Survey and Vincent M1 4D Marine Seismic Survey	2010/5415	Not Controlled Action (Particular Manner)	Post-Approval
Macedon Gas Field Development	2008/4605	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees 4D Marine Seismic Monitor Survey, HCA12A	2012/6579	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees-Macedon 3D marine seismic survey	2005/2325	Not Controlled Action (Particular Manner)	Post-Approval
Vincent M1 and Enfield M5 4D Marine Seismic Survey	2010/5720	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval

Referral decision			
CVG 3D Marine Seismic Survey	2012/6270	Referral Decision	Completed
Enfield 4D Marine Seismic Surveys, Production Permit WA-28-L	2005/2370	Referral Decision	Completed

Key Ecological Features

[Resource Information]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Ancient coastline at 125 m depth contour	North-west
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	North-west
Continental Slope Demersal Fish Communities	North-west

Biologically Important Areas

[Resource Information]

Scientific Name

Behaviour

Presence

Marine Turtles

[Caretta caretta](#)

Loggerhead Turtle [1763]

Internesting
buffer

Known to occur

[Chelonia mydas](#)

Green Turtle [1765]

Internesting
buffer

Known to occur

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766]

Internesting
buffer

Known to occur

[Natator depressus](#)

Flatback Turtle [59257]

Internesting
buffer

Known to occur

Seabirds

[Ardenna pacifica](#)

Wedge-tailed Shearwater [84292]

Breeding

Known to occur

Sharks

[Rhincodon typus](#)

Whale Shark [66680]

Foraging

Known to occur

Whales

[Megaptera novaeangliae](#)

Humpback Whale [38]

Migration
(north and
south)

Known to occur

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

[© Commonwealth of Australia](#)

Department of Climate Change, Energy, the Environment and Water

GPO Box 3090

Canberra ACT 2601 Australia

+61 2 6274 1111



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 26-Jun-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	2
National Heritage Places:	7
Wetlands of International Importance (Ramsar	6
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	13
Listed Threatened Ecological Communities:	11
Listed Threatened Species:	203
Listed Migratory Species:	108

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	282
Commonwealth Heritage Places:	21
Listed Marine Species:	209
Whales and Other Cetaceans:	44
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	1
Australian Marine Parks:	65
Habitat Critical to the Survival of Marine Turtles:	4

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	139
Regional Forest Agreements:	1
Nationally Important Wetlands:	18
EPBC Act Referrals:	481
Key Ecological Features (Marine):	23
Biologically Important Areas:	102
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties

[Resource Information]

Name	State	Legal Status
Shark Bay, Western Australia	WA	Declared property
The Ningaloo Coast	WA	Declared property

National Heritage Places

[Resource Information]

Name	State	Legal Status
Historic		
HMAS Sydney II and HSK Kormoran Shipwreck Sites	EXT	Listed place
Batavia Shipwreck Site and Survivor Camps Area 1629 - Houtman Abrolhos	WA	Listed place
Dirk Hartog Landing Site 1616 - Cape Inscription Area	WA	Listed place

Indigenous

Dampier Archipelago (including Burrup Peninsula)	WA	Listed place
--	----	--------------

Natural

Shark Bay, Western Australia	WA	Listed place
The Ningaloo Coast	WA	Listed place
The West Kimberley	WA	Listed place

Wetlands of International Importance (Ramsar Wetlands)

[Resource Information]

Ramsar Site Name	Proximity
Ashmore reef national nature reserve	Within Ramsar site
Eighty-mile beach	Within Ramsar site
Hosnies spring	Within Ramsar site
Peel-yalgorup system	Within 10km of Ramsar site
The dales	Within Ramsar site
Vasse-wonnerup system	Within 10km of Ramsar site

Commonwealth Marine Area

[Resource Information]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)

Listed Threatened Ecological Communities

[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Aquatic Root Mat Community 1 in Caves of the Leeuwin Naturaliste Ridge	Endangered	Community known to occur within area
Aquatic Root Mat Community in Caves of the Swan Coastal Plain	Endangered	Community known to occur within area
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area
Empodisma peatlands of southwestern Australia	Endangered	Community likely to occur within area
Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion	Critically Endangered	Community likely to occur within area

Community Name	Threatened Category	Presence Text
Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula	Endangered	Community may occur within area
Proteaceae Dominated Kwongan Shrublands of the Southeast Coastal Floristic Province of Western Australia	Endangered	Community likely to occur within area
Scott River Ironstone Association	Endangered	Community likely to occur within area
Sedgeland in Holocene dune swales of the southern Swan Coastal Plain	Endangered	Community known to occur within area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area

Listed Threatened Species

[[Resource Information](#)]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
 Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Accipiter hiogaster natalis Christmas Island Goshawk [82408]	Endangered	Species or species habitat known to occur within area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat known to occur within area
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Atrichornis clamosus Noisy Scrub-bird, Tjimiluk [654]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
Cereopsis novaehollandiae grisea Cape Barren Goose (south-western), Recherche Cape Barren Goose [25978]	Vulnerable	Species or species habitat known to occur within area
Chalcophaps indica natalis Christmas Island Emerald Dove, Emerald Dove (Christmas Island) [67030]	Endangered	Species or species habitat known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Dasyornis longirostris Western Bristlebird [515]	Endangered	Species or species habitat known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat known to occur within area
Fregata andrewsi Christmas Island Frigatebird, Andrew's Frigatebird [1011]	Endangered	Breeding known to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Endangered	Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Malurus leucopterus edouardi White-winged Fairy-wren (Barrow Island), Barrow Island Black-and-white Fairy-wren [26194]	Vulnerable	Species or species habitat likely to occur within area
Malurus leucopterus leucopterus White-winged Fairy-wren (Dirk Hartog Island), Dirk Hartog Black-and-White Fairy-wren [26004]	Vulnerable	Species or species habitat likely to occur within area
Ninox natalis Christmas Island Hawk-Owl, Christmas Boobook [66671]	Vulnerable	Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Breeding known to occur within area
Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Breeding known to occur within area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat likely to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area
Polytelis alexandrae Princess Parrot, Alexandra's Parrot [758]	Vulnerable	Species or species habitat may occur within area
Psophodes nigrogularis nigrogularis Western Heath Whipbird [64449]	Endangered	Species or species habitat known to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Turdus poliocephalus erythropleurus Christmas Island Thrush [67122]	Endangered	Species or species habitat likely to occur within area
Turnix varius scintillans Painted Button-quail (Houtman Abrolhos) [82451]	Endangered	Species or species habitat known to occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat may occur within area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area
Zanda baudinii listed as Calyptorhynchus baudinii Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-cockatoo [87736]	Endangered	Breeding known to occur within area
Zanda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Breeding known to occur within area
CRUSTACEAN		

Scientific Name	Threatened Category	Presence Text
Engaewa pseudoreducta Margaret River Burrowing Crayfish [82674]	Critically Endangered	Species or species habitat may occur within area
Kumonga exleyi Cape Range Remipede [86875]	Vulnerable	Species or species habitat likely to occur within area
FISH		
Galaxias truttaceus (Western Australian population) Western Trout Minnow [89857]	Endangered	Species or species habitat known to occur within area
Galaxiella nigrostriata Blackstriped Dwarf Galaxias, Black-stripe Minnow [88677]	Endangered	Species or species habitat known to occur within area
Hoplostethus atlanticus Orange Roughy, Deep-sea Perch, Red Roughy [68455]	Conservation Dependent	Species or species habitat likely to occur within area
Milyeringa veritas Cape Range Cave Gudgeon, Blind Gudgeon [66676]	Vulnerable	Species or species habitat known to occur within area
Nannatherina balstoni Balston's Pygmy Perch [66698]	Vulnerable	Species or species habitat known to occur within area
Ophisternon candidum Blind Cave Eel [66678]	Vulnerable	Species or species habitat known to occur within area
Seriolella brama Blue Warehou [69374]	Conservation Dependent	Species or species habitat likely to occur within area
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Breeding known to occur within area
INSECT		
Hesperocolletes douglasi Douglas' Broad-headed Bee, Rottnest Bee [66734]	Critically Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Trioza barrettae Banksia brownii plant louse [87805]	Endangered	Species or species habitat known to occur within area
MAMMAL		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Foraging, feeding or related behaviour known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Bettongia lesueur Barrow and Boodie Islands subspecies Boodie, Burrowing Bettong (Barrow and Boodie Islands) [88021]	Vulnerable	Species or species habitat known to occur within area
Bettongia lesueur lesueur Burrowing Bettong (Shark Bay), Boodie [66659]	Vulnerable	Species or species habitat known to occur within area
Bettongia penicillata ogilbyi Woylie [66844]	Endangered	Species or species habitat known to occur within area
Crocidura trichura Christmas Island Shrew [86568]	Critically Endangered	Species or species habitat likely to occur within area
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Isoodon auratus barrowensis Golden Bandicoot (Barrow Island) [66666]	Vulnerable	Species or species habitat known to occur within area
Lagorchestes conspicillatus conspicillatus Spectacled Hare-wallaby (Barrow Island) [66661]	Vulnerable	Species or species habitat known to occur within area
Lagorchestes hirsutus bernieri Rufous Hare-wallaby (Bernier Island) [66662]	Vulnerable	Species or species habitat known to occur within area
Lagorchestes hirsutus Central Australian subspecies Mala, Rufous Hare-Wallaby (Central Australia) [88019]	Endangered	Translocated population known to occur within area
Lagorchestes hirsutus dorreae Rufous Hare-wallaby (Dorre Island) [66663]	Vulnerable	Species or species habitat known to occur within area
Lagostrophus fasciatus fasciatus Banded Hare-wallaby, Merrnine, Marnine, Munning [66664]	Vulnerable	Species or species habitat known to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat known to occur within area
Macrotis lagotis Greater Bilby [282]	Vulnerable	Species or species habitat known to occur within area
Myrmecobius fasciatus Numbat [294]	Endangered	Species or species habitat may occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Breeding known to occur within area
Osphranter robustus isabellinus Barrow Island Wallaroo, Barrow Island Euro [89262]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Parantechinus apicalis Dibbler [313]	Endangered	Species or species habitat known to occur within area
Perameles bougainville Shark Bay Bandicoot [278]	Endangered	Species or species habitat known to occur within area
Petrogale lateralis lateralis Black-flanked Rock-wallaby, Moororong, Black-footed Rock Wallaby [66647]	Endangered	Species or species habitat known to occur within area
Phascogale calura Red-tailed Phascogale, Red-tailed Wambenger, Kenngoor [316]	Vulnerable	Species or species habitat may occur within area
Potorous gilbertii Gilbert's Potoroo, Ngilkat [66642]	Critically Endangered	Species or species habitat known to occur within area
Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Breeding known to occur within area
Pseudomys fieldi Shark Bay Mouse, Djoongari, Alice Springs Mouse [113]	Vulnerable	Species or species habitat likely to occur within area
Pseudomys shortridgei Heath Mouse, Dayang, Heath Rat [77]	Endangered	Species or species habitat likely to occur within area
Pteropus natalis Christmas Island Flying-fox, Christmas Island Fruit-bat [87611]	Critically Endangered	Species or species habitat known to occur within area
Rhinonicteris aurantia (Pilbara form) Pilbara Leaf-nosed Bat [82790]	Vulnerable	Species or species habitat known to occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheath-tailed Bat, Bare-rumped Sheathtail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Setonix brachyurus Quokka [229]	Vulnerable	Species or species habitat known to occur within area
Trichosurus vulpecula arnhemensis Northern Brushtail Possum [83091]	Vulnerable	Species or species habitat likely to occur within area
OTHER		
Westralunio carteri Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat known to occur within area
PLANT		
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat likely to occur within area
Andersonia pinaster Two Peoples Bay Andersonia [67444]	Vulnerable	Species or species habitat may occur within area
Androcalva bivillosa Stragglng Androcalva [87807]	Critically Endangered	Species or species habitat likely to occur within area
Anigozanthos bicolor subsp. minor Little Kangaroo Paw, Two-coloured Kangaroo Paw, Small Two-colour Kangaroo Paw [21241]	Endangered	Species or species habitat known to occur within area
Asplenium listeri Christmas Island Spleenwort [65865]	Critically Endangered	Species or species habitat known to occur within area
Banksia brownii Brown's Banksia, Feather-leaved Banksia [8277]	Critically Endangered	Species or species habitat known to occur within area
Banksia mimica Summer Honeypot [82765]	Endangered	Species or species habitat may occur within area
Banksia nivea subsp. uliginosa Swamp Honeypot [82766]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Banksia squarrosa subsp. argillacea Whicher Range Dryandra [82769]	Vulnerable	Species or species habitat may occur within area
Banksia verticillata Granite Banksia, Albany Banksia, River Banksia [8333]	Vulnerable	Species or species habitat known to occur within area
Beyeria lepidopetala Small-petalled Beyeria, Short-petalled Beyeria [18362]	Endangered	Species or species habitat likely to occur within area
Caladenia barbarella Small Dragon Orchid, Common Dragon Orchid [68686]	Endangered	Species or species habitat may occur within area
Caladenia bryceana subsp. cracens Northern Dwarf Spider-orchid [64556]	Vulnerable	Species or species habitat known to occur within area
Caladenia elegans Elegant Spider-orchid [56775]	Endangered	Species or species habitat known to occur within area
Caladenia granitora [65292]	Endangered	Species or species habitat known to occur within area
Caladenia hoffmanii Hoffman's Spider-orchid [56719]	Endangered	Species or species habitat likely to occur within area
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat likely to occur within area
Caladenia lodgeana Lodge's Spider-orchid [68664]	Critically Endangered	Species or species habitat known to occur within area
Caleana dixonii listed as Paracaleana dixonii Sandplain Duck Orchid [87944]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Calectasia cyanea Blue Tinsel Lily [7669]	Critically Endangered	Species or species habitat likely to occur within area
Chamelaucium sp. S coastal plain (R.D.Royce 4872) Royce's Waxflower [87814]	Vulnerable	Species or species habitat may occur within area
Chordifex abortivus Manypeaks Rush [64868]	Endangered	Species or species habitat likely to occur within area
Chorizema humile Prostrate Flame Pea [32573]	Endangered	Species or species habitat may occur within area
Chorizema varium Limestone Pea [16981]	Endangered	Species or species habitat known to occur within area
Conostylis micrantha Small-flowered Conostylis [17635]	Endangered	Species or species habitat may occur within area
Diuris drummondii Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat known to occur within area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat likely to occur within area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat may occur within area
Drakaea concolor Kneeling Hammer-orchid [56777]	Vulnerable	Species or species habitat known to occur within area
Drakaea elastica Glossy-leaved Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area
Drummondita ericoides Morseby Range Drummondita [9193]	Endangered	Species or species habitat likely to occur within area
Eucalyptus argutifolia Yanchep Mallee, Wabling Hill Mallee [24263]	Vulnerable	Species or species habitat known to occur within area
Eucalyptus beardiana Beard's Mallee [18933]	Vulnerable	Species or species habitat may occur within area
Eucalyptus cuprea Mallee Box [56773]	Endangered	Species or species habitat may occur within area
Gastrolobium papilio Butterfly-leaved Gastrolobium [78415]	Endangered	Species or species habitat may occur within area
Hemiandra gardneri Red Snakebush [7945]	Endangered	Species or species habitat likely to occur within area
Isopogon uncinatus Albany Cone Bush, Hook-leaf Isopogon [20871]	Endangered	Species or species habitat likely to occur within area
Kennedia glabrata Northcliffe Kennedia [16452]	Vulnerable	Species or species habitat known to occur within area
Kennedia lateritia Augusta Kennedia [45985]	Endangered	Species or species habitat likely to occur within area
Lambertia echinata subsp. occidentalis Western Prickly Honeysuckle [64528]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Lambertia orbifolia Roundleaf Honeysuckle [15725]	Endangered	Species or species habitat likely to occur within area
Lechenaultia chlorantha Kalbarri Leschenaultia [16763]	Vulnerable	Species or species habitat known to occur within area
Leptomeria dielsiana Diels' Currant Bush [5146]	Vulnerable	Species or species habitat likely to occur within area
Leucopogon marginatus Thick-margined Leucopogon [12527]	Endangered	Species or species habitat likely to occur within area
Leucopogon obtectus Hidden Beard-heath [19614]	Endangered	Species or species habitat may occur within area
Macarthuria keigheryi Keighery's Macarthuria [64930]	Endangered	Species or species habitat may occur within area
Marianthus paralius [83925]	Endangered	Species or species habitat known to occur within area
Minuria tridens Minnie Daisy [13753]	Vulnerable	Species or species habitat known to occur within area
Morelotia australiensis listed as Tetraria australiensis Southern Tetraria [92784]	Vulnerable	Species or species habitat may occur within area
Petrophile latericola Laterite Petrophile [64532]	Endangered	Species or species habitat may occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Pneumatopteris truncata fern [68812]	Critically Endangered	Species or species habitat known to occur within area
Pterostylis sinuata Northampton Midget Greenhood, Western Swan Greenhood [84991]	Endangered	Species or species habitat likely to occur within area
Reedia spathacea Reedia [2995]	Critically Endangered	Species or species habitat may occur within area
Ricinocarpos trichophorus Barrens Wedding Bush [19931]	Endangered	Species or species habitat may occur within area
Sphenotoma drummondii Mountain Paper-heath [21160]	Endangered	Species or species habitat likely to occur within area
Stachystemon nematophorus Three-flowered Stachystemon [81447]	Vulnerable	Species or species habitat known to occur within area
Synaphea sp. Fairbridge Farm (D.Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area
Tectaria devexa Cave Fern [14767]	Endangered	Species or species habitat likely to occur within area
Thelymitra stellata Star Sun-orchid [7060]	Endangered	Species or species habitat may occur within area
Wurmbea tubulosa Long-flowered Nancy [12739]	Endangered	Species or species habitat may occur within area
REPTILE		
Aipysurus apraefrontalis Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Cryptoblepharus egeriae Christmas Island Blue-tailed Skink, Blue-tailed Snake-eyed Skink [1526]	Critically Endangered	Species or species habitat likely to occur within area
Ctenotus lancelini Lancelin Island Skink [1482]	Vulnerable	Species or species habitat known to occur within area
Ctenotus zasticus Hamelin Ctenotus [25570]	Vulnerable	Species or species habitat known to occur within area
Cyrtodactylus sadleiri Christmas Island Giant Gecko [86865]	Endangered	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Egernia stokesii badia Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
Lepidodactylus listeri Christmas Island Gecko, Lister's Gecko [1711]	Critically Endangered	Species or species habitat known to occur within area
Lerista neviniae Nevin's Slider [85296]	Endangered	Species or species habitat known to occur within area
Liasis olivaceus barroni Pilbara Olive Python [66699]	Vulnerable	Species or species habitat known to occur within area
Liopholis pulchra longicauda Jurien Bay Skink, Jurien Bay Rock-skink [83162]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Ramphotyphlops exocoeti Christmas Island Blind Snake, Christmas Island Pink Blind Snake [1262]	Vulnerable	Species or species habitat likely to occur within area
Tiliqua scincoides intermedia Northern Blue-tongued Skink [89838]	Critically Endangered	Species or species habitat known to occur within area
Varanus mertensi Mertens' Water Monitor, Mertens's Water Monitor [1568]	Endangered	Species or species habitat may occur within area
Varanus mitchelli Mitchell's Water Monitor [1569]	Critically Endangered	Species or species habitat may occur within area
SHARK		
Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Congregation or aggregation known to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Centrophorus uyato Little Gulper Shark [68446]	Conservation Dependent	Species or species habitat likely to occur within area
Galeorhinus galeus School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark [68453]	Conservation Dependent	Species or species habitat likely to occur within area
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Breeding known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat known to occur within area

SPIDER		
Idiosoma nigrum Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat known to occur within area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Breeding known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]	Vulnerable	Breeding known to occur within area
Ardenna grisea Sooty Shearwater [82651]		Species or species habitat may occur within area
Ardenna pacifica Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Ardenna tenuirostris Short-tailed Shearwater [82652]		Breeding known to occur within area
Calonectris leucomelas Streaked Shearwater [1077]	Endangered	Species or species habitat known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]		Species or species habitat likely to occur within area
Diomedea antipodensis Antipodean Albatross [64458]		Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena Tristan Albatross [66471]		Species or species habitat likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Fregata andrewsi Christmas Island Frigatebird, Andrew's Frigatebird [1011]	Endangered	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Hydroprogne caspia Caspian Tern [808]		Breeding known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Onychoprion anaethetus Bridled Tern [82845]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding known to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat likely to occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area
Sternula albifrons Little Tern [82849]		Breeding known to occur within area
Sula dactylatra Masked Booby [1021]		Breeding known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Sula sula Red-footed Booby [1023]		Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat known to occur within area
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Balaenoptera musculus Blue Whale [36]	Endangered	Foraging, feeding or related behaviour known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour likely to occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Dugong dugon Dugong [28]		Breeding known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Eubalaena australis as Balaena glacialis australis		
Southern Right Whale [40]	Endangered	Breeding known to occur within area
Isurus oxyrinchus		
Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus		
Longfin Mako [82947]		Species or species habitat likely to occur within area
Lagenorhynchus obscurus		
Dusky Dolphin [43]		Species or species habitat likely to occur within area
Lamna nasus		
Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area
Lepidochelys olivacea		
Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Megaptera novaeangliae		
Humpback Whale [38]		Breeding known to occur within area
Mobula alfredi as Manta alfredi		
Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
Mobula birostris as Manta birostris		
Giant Manta Ray [90034]		Species or species habitat known to occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella heinsohni		
Australian Snubfin Dolphin [81322]		Species or species habitat known to occur within area
Orcinus orca		
Killer Whale, Orca [46]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Physeter macrocephalus Sperm Whale [59]		Foraging, feeding or related behaviour known to occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Breeding known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sousa sahalensis as Sousa chinensis Australian Humpback Dolphin [87942]		Species or species habitat known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Migratory Terrestrial Species		
Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat known to occur within area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris subminuta Long-toed Stint [861]		Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Species or species habitat known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Numenius minutus Little Curlew, Little Whimbrel [848]		Species or species habitat known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Phalaropus lobatus Red-necked Phalarope [838]		Roosting known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Lands

[Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State
Defence	
Defence - CAMPBELL BARRACKS - SWANBOURNE [50183]	WA
Defence - CAMPBELL BARRACKS - SWANBOURNE [50182]	WA
Defence - CAMPBELL BARRACKS - SWANBOURNE [50186]	WA
Defence - CAMPBELL BARRACKS - SWANBOURNE [50187]	WA
Defence - CAMPBELL BARRACKS - SWANBOURNE [50184]	WA
Defence - CAMPBELL BARRACKS - SWANBOURNE [50185]	WA
Defence - CAMPBELL BARRACKS - SWANBOURNE [50181]	WA
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50125]	WA
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50127]	WA
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50124]	WA
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50126]	WA
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50129]	WA
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50128]	WA
Defence - EXMOUTH VLF TRANSMITTER STATION [50123]	WA
Defence - EXMOUTH VLF TRANSMITTER STATION [50122]	WA
Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN ISLAND [50134]	WA
Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN ISLAND [50131]	WA
Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN ISLAND [50117]	WA
Defence - LANCELIN TRAINING AREA [50121]	WA
Defence - LANCELIN TRAINING AREA [50120]	WA
Defence - LEARMONTH - AIR WEAPONS RANGE [50193]	WA

Commonwealth Land Name	State
Defence - LEARMONTH - RAAF BASE [50097]	WA
Defence - LEARMONTH - RAAF BASE [50101]	WA
Defence - LEARMONTH - RAAF BASE [50106]	WA
Defence - LEARMONTH - RAAF BASE [50107]	WA
Defence - LEARMONTH - RAAF BASE [50100]	WA
Defence - LEARMONTH - RAAF BASE [50102]	WA
Defence - LEARMONTH - RAAF BASE [50105]	WA
Defence - LEARMONTH - RAAF BASE [50108]	WA
Defence - LEARMONTH - RAAF BASE [50109]	WA
Defence - LEARMONTH - RAAF BASE [50103]	WA
Defence - LEARMONTH RADAR SITE - TWIN TANKS EXMOUTH [50002]	WA
Defence - LEARMONTH RADAR SITE - VLAMING HEAD EXMOUTH [50001]	WA
Defence - LEARMONTH TRANSMITTING STATION [50239]	WA
Defence - SWANBOURNE RIFLE RANGE [50191]	WA
Defence - SWANBOURNE RIFLE RANGE [50188]	WA
Environment and Heritage	
Commonwealth Land - Christmas Island National Park [94101]	CI
Commonwealth Land - Christmas Island National Park [94103]	CI
Commonwealth Land - Christmas Island National Park [94102]	CI
Commonwealth Land - Christmas Island National Park [94104]	CI
Commonwealth Land - Christmas Island National Park [94105]	CI
Unknown	
Commonwealth Land - [51460]	WA
Commonwealth Land - [51461]	WA
Commonwealth Land - [51466]	WA
Commonwealth Land - [51467]	WA
Commonwealth Land - [51464]	WA

Commonwealth Land Name	State
Commonwealth Land - [51465]	WA
Commonwealth Land - [51468]	WA
Commonwealth Land - [51469]	WA
Commonwealth Land - [94223]	CI
Commonwealth Land - [94222]	CI
Commonwealth Land - [94221]	CI
Commonwealth Land - [94220]	CI
Commonwealth Land - [51477]	WA
Commonwealth Land - [94229]	CI
Commonwealth Land - [94228]	CI
Commonwealth Land - [94227]	CI
Commonwealth Land - [94226]	CI
Commonwealth Land - [94224]	CI
Commonwealth Land - [94237]	CI
Commonwealth Land - [51118]	WA
Commonwealth Land - [51119]	WA
Commonwealth Land - [51111]	WA
Commonwealth Land - [94241]	CI
Commonwealth Land - [50413]	WA
Commonwealth Land - [94225]	CI
Commonwealth Land - [94233]	CI
Commonwealth Land - [51463]	WA
Commonwealth Land - [51462]	WA
Commonwealth Land - [52105]	WA
Commonwealth Land - [52104]	WA
Commonwealth Land - [52107]	WA
Commonwealth Land - [52106]	WA

Commonwealth Land Name	State
Commonwealth Land - [51442]	WA
Commonwealth Land - [94253]	CI
Commonwealth Land - [52101]	WA
Commonwealth Land - [52100]	WA
Commonwealth Land - [52103]	WA
Commonwealth Land - [52102]	WA
Commonwealth Land - [51476]	WA
Commonwealth Land - [51474]	WA
Commonwealth Land - [51475]	WA
Commonwealth Land - [52108]	WA
Commonwealth Land - [51104]	WA
Commonwealth Land - [52109]	WA
Commonwealth Land - [51472]	WA
Commonwealth Land - [51473]	WA
Commonwealth Land - [51470]	WA
Commonwealth Land - [51471]	WA
Commonwealth Land - [50508]	WA
Commonwealth Land - [94216]	CI
Commonwealth Land - [52110]	WA
Commonwealth Land - [52111]	WA
Commonwealth Land - [51451]	WA
Commonwealth Land - [51456]	WA
Commonwealth Land - [51454]	WA
Commonwealth Land - [51455]	WA
Commonwealth Land - [51443]	WA
Commonwealth Land - [51447]	WA
Commonwealth Land - [51446]	WA

Commonwealth Land Name	State
Commonwealth Land - [51445]	WA
Commonwealth Land - [51444]	WA
Commonwealth Land - [51449]	WA
Commonwealth Land - [51448]	WA
Commonwealth Land - [50402]	WA
Commonwealth Land - [51884]	WA
Commonwealth Land - [52099]	WA
Commonwealth Land - [52236]	WA
Commonwealth Land - [51053]	WA
Commonwealth Land - [51055]	WA
Commonwealth Land - [51054]	WA
Commonwealth Land - [51459]	WA
Commonwealth Land - [51458]	WA
Commonwealth Land - [51453]	WA
Commonwealth Land - [51452]	WA
Commonwealth Land - [51450]	WA
Commonwealth Land - [51491]	WA
Commonwealth Land - [50502]	WA
Commonwealth Land - [50377]	WA
Commonwealth Land - [51483]	WA
Commonwealth Land - [51717]	WA
Commonwealth Land - [94278]	CI
Commonwealth Land - [51457]	WA
Commonwealth Land - [94280]	CI
Commonwealth Land - [52214]	WA
Commonwealth Land - [51719]	WA
Commonwealth Land - [51718]	WA

Commonwealth Land Name	State
Commonwealth Land - [51888]	WA
Commonwealth Land - [51667]	WA
Commonwealth Land - [51712]	WA
Commonwealth Land - [51404]	WA
Commonwealth Land - [51666]	WA
Commonwealth Land - [51668]	WA
Commonwealth Land - [51887]	WA
Commonwealth Land - [51403]	WA
Commonwealth Land - [94210]	CI
Commonwealth Land - [94217]	CI
Commonwealth Land - [94213]	CI
Commonwealth Land - [94211]	CI
Commonwealth Land - [50626]	WA
Commonwealth Land - [50625]	WA
Commonwealth Land - [94219]	CI
Commonwealth Land - [94218]	CI
Commonwealth Land - [94215]	CI
Commonwealth Land - [94214]	CI
Commonwealth Land - [94212]	CI
Commonwealth Land - [51437]	WA
Commonwealth Land - [94261]	CI
Commonwealth Land - [50630]	WA
Commonwealth Land - [51720]	WA
Commonwealth Land - [94265]	CI
Commonwealth Land - [94262]	CI
Commonwealth Land - [94267]	CI
Commonwealth Land - [94264]	CI

Commonwealth Land Name	State
Commonwealth Land - [94263]	CI
Commonwealth Land - [94260]	CI
Commonwealth Land - [50593]	WA
Commonwealth Land - [52199]	WA
Commonwealth Land - [52198]	WA
Commonwealth Land - [50592]	WA
Commonwealth Land - [50594]	WA
Commonwealth Land - [94269]	CI
Commonwealth Land - [94268]	CI
Commonwealth Land - [52195]	WA
Commonwealth Land - [94266]	CI
Commonwealth Land - [50641]	WA
Commonwealth Land - [94238]	CI
Commonwealth Land - [94235]	CI
Commonwealth Land - [94234]	CI
Commonwealth Land - [94236]	CI
Commonwealth Land - [94231]	CI
Commonwealth Land - [94230]	CI
Commonwealth Land - [94232]	CI
Commonwealth Land - [50588]	WA
Commonwealth Land - [50396]	WA
Commonwealth Land - [51704]	WA
Commonwealth Land - [51707]	WA
Commonwealth Land - [51706]	WA
Commonwealth Land - [51700]	WA
Commonwealth Land - [51703]	WA
Commonwealth Land - [51702]	WA

Commonwealth Land Name	State
Commonwealth Land - [52276]	ACI
Commonwealth Land - [52277]	ACI
Commonwealth Land - [52278]	ACI
Commonwealth Land - [51705]	WA
Commonwealth Land - [50563]	WA
Commonwealth Land - [51411]	WA
Commonwealth Land - [94202]	CI
Commonwealth Land - [94201]	CI
Commonwealth Land - [51672]	WA
Commonwealth Land - [51893]	WA
Commonwealth Land - [51671]	WA
Commonwealth Land - [51670]	WA
Commonwealth Land - [51892]	WA
Commonwealth Land - [51709]	WA
Commonwealth Land - [50381]	WA
Commonwealth Land - [94209]	CI
Commonwealth Land - [94208]	CI
Commonwealth Land - [94207]	CI
Commonwealth Land - [50436]	WA
Commonwealth Land - [50439]	WA
Commonwealth Land - [50385]	WA
Commonwealth Land - [94206]	CI
Commonwealth Land - [94205]	CI
Commonwealth Land - [94204]	CI
Commonwealth Land - [51714]	WA
Commonwealth Land - [51715]	WA
Commonwealth Land - [51711]	WA

Commonwealth Land Name	State
Commonwealth Land - [51716]	WA
Commonwealth Land - [51713]	WA
Commonwealth Land - [51710]	WA
Commonwealth Land - [51486]	WA
Commonwealth Land - [50430]	WA
Commonwealth Land - [94239]	CI
Commonwealth Land - [52201]	WA
Commonwealth Land - [50448]	WA
Commonwealth Land - [50440]	WA
Commonwealth Land - [50553]	WA
Commonwealth Land - [51947]	WA
Commonwealth Land - [50494]	WA
Commonwealth Land - [94252]	CI
Commonwealth Land - [52098]	WA
Commonwealth Land - [51974]	WA
Commonwealth Land - [94277]	CI
Commonwealth Land - [94276]	CI
Commonwealth Land - [94275]	CI
Commonwealth Land - [94274]	CI
Commonwealth Land - [50974]	WA
Commonwealth Land - [50975]	WA
Commonwealth Land - [50976]	WA
Commonwealth Land - [50977]	WA
Commonwealth Land - [50978]	WA
Commonwealth Land - [50379]	WA
Commonwealth Land - [52200]	WA
Commonwealth Land - [51891]	WA

Commonwealth Land Name	State
Commonwealth Land - [51987]	WA
Commonwealth Land - [51695]	WA
Commonwealth Land - [51696]	WA
Commonwealth Land - [51698]	WA
Commonwealth Land - [51699]	WA
Commonwealth Land - [51708]	WA
Commonwealth Land - [50587]	WA
Commonwealth Land - [50574]	WA
Commonwealth Land - [50575]	WA
Commonwealth Land - [94279]	CI
Commonwealth Land - [94271]	CI
Commonwealth Land - [50598]	WA
Commonwealth Land - [50606]	WA
Commonwealth Land - [50576]	WA
Commonwealth Land - [94273]	CI
Commonwealth Land - [94270]	CI
Commonwealth Land - [94272]	CI
Commonwealth Land - [51978]	WA
Commonwealth Land - [94203]	CI
Commonwealth Land - [50559]	WA
Commonwealth Land - [94259]	CI
Commonwealth Land - [94257]	CI
Commonwealth Land - [94258]	CI
Commonwealth Land - [94255]	CI
Commonwealth Land - [94256]	CI
Commonwealth Land - [94251]	CI
Commonwealth Land - [94254]	CI

Commonwealth Land Name	State
Commonwealth Land - [50489]	WA
Commonwealth Land - [94250]	CI
Commonwealth Land - [52097]	WA
Commonwealth Land - [50585]	WA
Commonwealth Land - [50586]	WA
Commonwealth Land - [94249]	CI
Commonwealth Land - [94248]	CI
Commonwealth Land - [50562]	WA
Commonwealth Land - [50560]	WA
Commonwealth Land - [50561]	WA
Commonwealth Land - [50582]	WA
Commonwealth Land - [50583]	WA
Commonwealth Land - [50584]	WA
Commonwealth Land - [94244]	CI
Commonwealth Land - [94246]	CI
Commonwealth Land - [94245]	CI
Commonwealth Land - [94240]	CI
Commonwealth Land - [94247]	CI
Commonwealth Land - [94243]	CI
Commonwealth Land - [94242]	CI

Commonwealth Heritage Places		[Resource Information]
Name	State	Status
Historic		
Administrators House Precinct	EXT	Listed place
Cape Leeuwin Lighthouse	WA	Listed place
Cliff Point Historic Site	WA	Listed place
Drumsite Industrial Area	EXT	Listed place
HMAS Sydney II and HSK Kormoran Shipwreck Sites	EXT	Listed place

Name	State	Status
Industrial and Administrative Group	EXT	Listed place
J Gun Battery	WA	Listed place
Malay Kampong Group	EXT	Listed place
Malay Kampong Precinct	EXT	Listed place
Phosphate Hill Historic Area	EXT	Listed place
Poon Saan Group	EXT	Listed place
Settlement Christmas Island	EXT	Listed place
South Point Settlement Remains	EXT	Listed place

Natural		
Ashmore Reef National Nature Reserve	EXT	Listed place
Christmas Island Natural Areas	EXT	Listed place
Garden Island	WA	Listed place
Lancelin Defence Training Area	WA	Listed place
Learmonth Air Weapons Range Facility	WA	Listed place
Mermaid Reef - Rowley Shoals	WA	Listed place
Ningaloo Marine Area - Commonwealth Waters	WA	Listed place
Scott Reef and Surrounds - Commonwealth Area	EXT	Listed place

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area overfly marine area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous minutus Black Noddy [824]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Anous stolidus Common Noddy [825]		Breeding known to occur within area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Breeding known to occur within area
Ardenna grisea as Puffinus griseus Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area
Ardenna pacifica as Puffinus pacificus Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Ardenna tenuirostris as Puffinus tenuirostris Short-tailed Shearwater [82652]		Breeding known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area overfly marine area
Calidris subminuta Long-toed Stint [861]		Species or species habitat known to occur within area overfly marine area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Cecropis daurica as Hirundo daurica Red-rumped Swallow [80610]		Species or species habitat known to occur within area overfly marine area
Cereopsis novaehollandiae grisea Cape Barren Goose (south-western), Recherche Cape Barren Goose [25978]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area overfly marine area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat known to occur within area overfly marine area
Chroicocephalus novaehollandiae as Larus novaehollandiae Silver Gull [82326]		Breeding known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat likely to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Eudyptula minor Little Penguin [1085]		Breeding known to occur within area
Fregata andrewsi Christmas Island Frigatebird, Andrew's Frigatebird [1011]	Endangered	Breeding known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area overfly marine area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area overfly marine area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat known to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area overfly marine area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Larus pacificus Pacific Gull [811]		Breeding known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Species or species habitat known to occur within area overfly marine area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area overfly marine area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat known to occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Species or species habitat known to occur within area overfly marine area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Onychoprion anaethetus as Sterna anaethetus Bridled Tern [82845]		Breeding known to occur within area
Onychoprion fuscatus as Sterna fuscata Sooty Tern [90682]		Breeding known to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat known to occur within area
Pelagodroma marina White-faced Storm-Petrel [1016]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding known to occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Breeding known to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Phalacrocorax fuscescens Black-faced Cormorant [59660]		Breeding likely to occur within area

Scientific Name	Threatened Category	Presence Text
Phalaropus lobatus Red-necked Phalarope [838]		Roosting known to occur within area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat likely to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area overfly marine area
Pterodroma macroptera Great-winged Petrel [1035]		Breeding known to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Puffinus assimilis Little Shearwater [59363]		Breeding known to occur within area
Puffinus huttoni Hutton's Shearwater [1025]		Foraging, feeding or related behaviour known to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area
Stercorarius antarcticus as Catharacta skua Brown Skua [85039]		Species or species habitat may occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Sternula albifrons as Sterna albifrons Little Tern [82849]		Breeding known to occur within area
Sternula nereis as Sterna nereis Fairy Tern [82949]		Breeding known to occur within area
Stiltia isabella Australian Pratincole [818]		Species or species habitat known to occur within area overfly marine area
Sula dactylatra Masked Booby [1021]		Breeding known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area
Thalasseus bengalensis as Sterna bengalensis Lesser Crested Tern [66546]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Thalasseus bergii as Sterna bergii Greater Crested Tern [83000]		Breeding known to occur within area
Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735]		Species or species habitat known to occur within area overfly marine area
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area overfly marine area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area overfly marine area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area overfly marine area
Fish		
Acentronura australe Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
Acentronura larsonae Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
Bhanotia fasciolata Corrugated Pipefish, Barbed Pipefish [66188]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Bulbonaricus brauni Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area
Campichthys galei Gale's Pipefish [66191]		Species or species habitat may occur within area
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys latispinosus Muiron Island Pipefish [66196]		Species or species habitat may occur within area
Choeroichthys sculptus Sculptured Pipefish [66197]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys haematopterus Reef-top Pipefish [66201]		Species or species habitat may occur within area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area
Cosmocampus banneri Roughridge Pipefish [66206]		Species or species habitat may occur within area
Cosmocampus maxweberi Maxweber's Pipefish [66209]		Species or species habitat may occur within area
Doryrhamphus baldwini Redstripe Pipefish [66718]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Doryrhamphus multiannulatus Many-banded Pipefish [66717]		Species or species habitat may occur within area
Doryrhamphus negrosensis Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area
Festucalex scalaris Ladder Pipefish [66216]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus macrorhynchus Whiskered Pipefish, Ornate Pipefish [66222]		Species or species habitat may occur within area
Halicampus mataafae Samoan Pipefish [66223]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys heptagonus Madura Pipefish, Reticulated Freshwater Pipefish [66229]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippichthys spicifer Belly-barred Pipefish, Banded Freshwater Pipefish [66232]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Hippocampus subelongatus West Australian Seahorse [66722]		Species or species habitat may occur within area
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area
Histiogamphelus cristatus Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Leptoichthys fistularius Brushtail Pipefish [66248]		Species or species habitat may occur within area
Lissocampus caudalis Australian Smooth Pipefish, Smooth Pipefish [66249]		Species or species habitat may occur within area
Lissocampus fatiloquus Prophet's Pipefish [66250]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Micrognathus brevirostris thorntail Pipefish, Thorn-tailed Pipefish [66254]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Mitotichthys meraculus Western Crested Pipefish [66259]		Species or species habitat may occur within area
Nannocampus subosseus Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area
Phoxocampus belcheri Black Rock Pipefish [66719]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Phycodurus eques Leafy Seadragon [66267]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Pugnaso curtirostris Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area
Vanacampus poecilolaemus Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area
Mammal		
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Breeding known to occur within area
Dugong dugon Dugong [28]		Breeding known to occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Breeding known to occur within area
Reptile		
Aipysurus apraefrontalis Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area
Aipysurus fuscus Dusky Sea Snake [1119]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Aipysurus laevis Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
Aipysurus mosaicus as Aipysurus eydouxii Mosaic Sea Snake [87261]		Species or species habitat may occur within area
Aipysurus pooleorum Shark Bay Sea Snake [66061]		Species or species habitat may occur within area
Aipysurus tenuis Brown-lined Sea Snake, Mjoberg's Sea Snake [1121]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Emydocephalus annulatus Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area
Ephalophis greyae as Ephalophis greyi Mangrove Sea Snake [93738]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis coggeri Cogger's Sea Snake [25925]		Species or species habitat may occur within area
Hydrophis czeblukovi Fine-spined Sea Snake [59233]		Species or species habitat may occur within area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		Species or species habitat may occur within area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area
Hydrophis macdowelli as Hydrophis mcdowelli MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Foraging, feeding or related behaviour known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Berardius arnuxii Arnoux's Beaked Whale [70]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Globicephala melas Long-finned Pilot Whale [59282]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Hyperoodon planifrons Southern Bottlenose Whale [71]		Species or species habitat may occur within area
Indopacetus pacificus Longman's Beaked Whale [72]		Species or species habitat may occur within area
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Lagenodelphis hosei Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat likely to occur within area
Lissodelphis peronii Southern Right Whale Dolphin [44]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mesoplodon bowdoini Andrew's Beaked Whale [73]		Species or species habitat may occur within area
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Mesoplodon ginkgodens Ginkgo-toothed Beaked Whale, Ginkgo-toothed Whale, Ginkgo Beaked Whale [59564]		Species or species habitat may occur within area
Mesoplodon grayi Gray's Beaked Whale, Scamperdown Whale [75]		Species or species habitat may occur within area
Mesoplodon hectori Hector's Beaked Whale [76]		Species or species habitat may occur within area
Mesoplodon layardii Strap-toothed Beaked Whale, Strap-toothed Whale, Layard's Beaked Whale [25556]		Species or species habitat may occur within area
Mesoplodon mirus True's Beaked Whale [54]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Foraging, feeding or related behaviour known to occur within area
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Sousa sahalensis Australian Humpback Dolphin [87942]		Species or species habitat known to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area
Tasmacetus shepherdi Shepherd's Beaked Whale, Tasman Beaked Whale [55]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Commonwealth Reserves Terrestrial		[Resource Information]
Name	State	Type
Christmas Island	EXT	National Park (Commonwealth)

Australian Marine Parks		[Resource Information]
Park Name	Zone & IUCN Categories	
Abrolhos	Habitat Protection Zone (IUCN IV)	
Carnarvon Canyon	Habitat Protection Zone (IUCN IV)	
Christmas Island	Habitat Protection Zone (IUCN IV)	
Dampier	Habitat Protection Zone (IUCN IV)	
Gascoyne	Habitat Protection Zone (IUCN IV)	
Gascoyne	Habitat Protection Zone (IUCN IV)	
Geographe	Habitat Protection Zone (IUCN IV)	
Kimberley	Habitat Protection Zone (IUCN IV)	
Kimberley	Habitat Protection Zone (IUCN IV)	

Park Name	Zone & IUCN Categories
Perth Canyon	Habitat Protection Zone (IUCN IV)
Perth Canyon	Habitat Protection Zone (IUCN IV)
Perth Canyon	Habitat Protection Zone (IUCN IV)
South-west Corner	Habitat Protection Zone (IUCN IV)
Abrolhos	Multiple Use Zone (IUCN VI)
Abrolhos	Multiple Use Zone (IUCN VI)
Abrolhos	Multiple Use Zone (IUCN VI)
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)
Dampier	Multiple Use Zone (IUCN VI)
Eighty Mile Beach	Multiple Use Zone (IUCN VI)
Gascoyne	Multiple Use Zone (IUCN VI)
Geographe	Multiple Use Zone (IUCN VI)
Kimberley	Multiple Use Zone (IUCN VI)
Montebello	Multiple Use Zone (IUCN VI)
Perth Canyon	Multiple Use Zone (IUCN VI)
Perth Canyon	Multiple Use Zone (IUCN VI)
Roebuck	Multiple Use Zone (IUCN VI)
Shark Bay	Multiple Use Zone (IUCN VI)
South-west Corner	Multiple Use Zone (IUCN VI)
Two Rocks	Multiple Use Zone (IUCN VI)
Abrolhos	National Park Zone (IUCN II)
Abrolhos	National Park Zone (IUCN II)
Abrolhos	National Park Zone (IUCN II)
Argo-Rowley Terrace	National Park Zone (IUCN II)

Park Name	Zone & IUCN Categories
Christmas Island	National Park Zone (IUCN II)
Dampier	National Park Zone (IUCN II)
Gascoyne	National Park Zone (IUCN II)
Geographie	National Park Zone (IUCN II)
Jurien	National Park Zone (IUCN II)
Kimberley	National Park Zone (IUCN II)
Mermaid Reef	National Park Zone (IUCN II)
Ningaloo	National Park Zone (IUCN II)
Perth Canyon	National Park Zone (IUCN II)
Perth Canyon	National Park Zone (IUCN II)
South-west Corner	National Park Zone (IUCN II)
South-west Corner	National Park Zone (IUCN II)
South-west Corner	National Park Zone (IUCN II)
South-west Corner	National Park Zone (IUCN II)
South-west Corner	National Park Zone (IUCN II)
South-west Corner	National Park Zone (IUCN II)
Two Rocks	National Park Zone (IUCN II)
Ashmore Reef	Recreational Use Zone (IUCN IV)
Ningaloo	Recreational Use Zone (IUCN IV)
Ningaloo	Recreational Use Zone (IUCN IV)
Ashmore Reef	Sanctuary Zone (IUCN Ia)
Abrolhos	Special Purpose Zone (IUCN VI)
Abrolhos	Special Purpose Zone (IUCN VI)
Eastern Recherche	Special Purpose Zone (IUCN VI)

Park Name	Zone & IUCN Categories
Jurien	Special Purpose Zone (IUCN VI)
South-west Corner	Special Purpose Zone (IUCN VI)
South-west Corner	Special Purpose Zone (IUCN VI)
Geographe	Special Purpose Zone (Mining Exclusion) (IUCN VI)
South-west Corner	Special Purpose Zone (Mining Exclusion) (IUCN VI)
South-west Corner	Special Purpose Zone (Mining Exclusion) (IUCN VI)
Argo-Rowley Terrace	Special Purpose Zone (Trawl) (IUCN VI)

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
Aug - Sep		
Natator depressus		
Flatback Turtle [59257]	Nesting	Known to occur
Dec - Jan		
Chelonia mydas		
Green Turtle [1765]	Nesting	Known to occur
Nov-Feb		
Caretta caretta		
Loggerhead Turtle [1763]	Nesting	Known to occur
Nov - May		
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Nesting	Known to occur

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	
Abrolhos Islands	Fish Habitat Protection Area	WA	
Airlie Island	Nature Reserve	WA	
Arpenteur	Nature Reserve	WA	

Protected Area Name	Reserve Type	State
Bald Island	Nature Reserve	WA
Barrow Island	Nature Reserve	WA
Barrow Island	Marine Park	WA
Barrow Island	Marine Management Area	WA
Beagle Islands	Nature Reserve	WA
Bedout Island	Nature Reserve	WA
Beekeepers	Nature Reserve	WA
Bernier And Dorre Islands	Nature Reserve	WA
Bessieres Island	Nature Reserve	WA
Bold Park	Botanic Gardens	WA
Boodie, Double Middle Islands	Nature Reserve	WA
Boullanger, Whitlock, Favourite, Tern And Osprey Islands	Nature Reserve	WA
Buller, Whittell And Green Islands	Nature Reserve	WA
Bundegi Coastal Park	5(1)(h) Reserve	WA
Cape Range	National Park	WA
Cape Range (South)	National Park	WA
Carnac Island	Nature Reserve	WA
Cervantes Islands	Nature Reserve	WA
Cottesloe Reef	Fish Habitat Protection Area	WA
Coulomb Point	Nature Reserve	WA
D'Entrecasteaux	National Park	WA
Dirk Hartog Island	National Park	WA
Dongara	Nature Reserve	WA
Eclipse Island	Nature Reserve	WA
Eighty Mile Beach	Marine Park	WA

Protected Area Name	Reserve Type	State
Escape Island	Nature Reserve	WA
Essex Rocks	Nature Reserve	WA
Fisherman Islands	Nature Reserve	WA
Flinders Bay	Nature Reserve	WA
Gingilup Swamps	Nature Reserve	WA
Gnandaroo Island	Nature Reserve	WA
Great Sandy Island	Nature Reserve	WA
Hamelin Island	Nature Reserve	WA
Houtman Abrolhos Islands	National Park	WA
Jerdacuttup Lakes	Nature Reserve	WA
Jurabi Coastal Park	5(1)(h) Reserve	WA
Jurien Bay	Marine Park	WA
Kalbarri	National Park	WA
Kalbarri Blue Holes	Fish Habitat Protection Area	WA
Karajarri	Indigenous Protected Area	WA
Koks Island	Nature Reserve	WA
Lacepede Islands	Nature Reserve	WA
Lake Shaster	Nature Reserve	WA
Lancelin And Edwards Islands	Nature Reserve	WA
Lancelin Island Lagoon	Fish Habitat Protection Area	WA
Leeuwin-Naturaliste	National Park	WA
Lipfert, Milligan, Etc Islands	Nature Reserve	WA
Little Rocky Island	Nature Reserve	WA
Locker Island	Nature Reserve	WA
Lowendal Islands	Nature Reserve	WA

Protected Area Name	Reserve Type	State
Marmion	Marine Park	WA
Montebello Islands	Conservation Park	WA
Montebello Islands	Conservation Park	WA
Montebello Islands	Marine Park	WA
Mount Manypeaks	Nature Reserve	WA
Muiron Islands	Nature Reserve	WA
Muiron Islands	Marine Management Area	WA
Murujuga	National Park	WA
Nambung	National Park	WA
Nanga Station	NRS Addition - Gazettal in Progress	WA
Neerabup	National Park	WA
Ngari Capes	Marine Park	WA
Nilgen	Nature Reserve	WA
Ningaloo	Marine Park	WA
North Sandy Island	Nature Reserve	WA
North Turtle Island	Nature Reserve	WA
NTWA Bushland covenant (0013)	Conservation Covenant	WA
NTWA Bushland covenant (0015A)	Conservation Covenant	WA
NTWA Bushland covenant (0015B)	Conservation Covenant	WA
Nyangumarta Warrarn	Indigenous Protected Area	WA
Nyingguulu (Ningaloo) Coastal Reserve	5(1)(h) Reserve	WA
Outer Rocks	Nature Reserve	WA
Part Murchison house	NRS Addition - Gazettal in Progress	WA
Point Quobba	Fish Habitat Protection Area	WA

Protected Area Name	Reserve Type	State
Port Gregory	NRS Addition - Gazettal in Progress	WA
Quagering	Nature Reserve	WA
Recherche Archipelago	Nature Reserve	WA
Rocky Island	Nature Reserve	WA
Ronsard Rocks	Nature Reserve	WA
Rottnest Island	State Reserve	WA
Round Island	Nature Reserve	WA
Rowley Shoals	Marine Park	WA
Sandland Island	Nature Reserve	WA
Scott Reef	Nature Reserve	WA
Seal Island (WA25645)	Nature Reserve	WA
Serrurier Island	Nature Reserve	WA
Shark Bay	Marine Park	WA
Southern Beekeepers	Nature Reserve	WA
St Alouarn Island	Nature Reserve	WA
Stockdill Road	Nature Reserve	WA
Stokes	National Park	WA
Tamala Pastoral Lease (Part)	NRS Addition - Gazettal in Progress	WA
Tent Island	Nature Reserve	WA
Thevenard Island	Nature Reserve	WA
Torndirrup	National Park	WA
Two Peoples Bay	Nature Reserve	WA
Unnamed WA11883	5(1)(h) Reserve	WA
Unnamed WA26400	5(1)(h) Reserve	WA
Unnamed WA32478	5(1)(h) Reserve	WA
Unnamed WA32601	5(1)(h) Reserve	WA

Protected Area Name	Reserve Type	State
Unnamed WA33287	Nature Reserve	WA
Unnamed WA34039	5(1)(h) Reserve	WA
Unnamed WA36907	5(1)(h) Reserve	WA
Unnamed WA36909	5(1)(h) Reserve	WA
Unnamed WA36910	5(1)(h) Reserve	WA
Unnamed WA36913	Nature Reserve	WA
Unnamed WA36915	Nature Reserve	WA
Unnamed WA37338	5(1)(h) Reserve	WA
Unnamed WA37383	5(1)(h) Reserve	WA
Unnamed WA40322	5(1)(h) Reserve	WA
Unnamed WA40828	5(1)(h) Reserve	WA
Unnamed WA40877	5(1)(h) Reserve	WA
Unnamed WA41080	5(1)(h) Reserve	WA
Unnamed WA44665	5(1)(h) Reserve	WA
Unnamed WA44667	5(1)(h) Reserve	WA
Unnamed WA44672	5(1)(h) Reserve	WA
Unnamed WA44676	5(1)(h) Reserve	WA
Unnamed WA44682	5(1)(h) Reserve	WA
Unnamed WA44685	5(1)(h) Reserve	WA
Unnamed WA44688	5(1)(h) Reserve	WA
Unnamed WA44709	5(1)(h) Reserve	WA
Unnamed WA48205	5(1)(h) Reserve	WA
Unnamed WA48858	Nature Reserve	WA
Unnamed WA49994	Conservation Park	WA
Unnamed WA53843	National Park	WA
Utcha Well	Nature Reserve	WA
Victor Island	Nature Reserve	WA

Protected Area Name	Reserve Type	State
Walpole-Nornalup	National Park	WA
Wanagarren	Nature Reserve	WA
Waychinicup	National Park	WA
Wedge Island	Nature Reserve	WA
Weld Island	Nature Reserve	WA
Whalebone Island	Nature Reserve	WA
Yanchep	National Park	WA
Y Island	Nature Reserve	WA
Zuytdorp	Nature Reserve	WA

Regional Forest Agreements
[Resource Information]

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

RFA Name	State
South West WA RFA	Western Australia

Nationally Important Wetlands
[Resource Information]

Wetland Name	State
"The Dales", Christmas Island	EXT
Ashmore Reef	EXT
Broke Inlet System	WA
Cape Leeuwin System	WA
Cape Range Subterranean Waterways	WA
Doggerup Creek System	WA
Exmouth Gulf East	WA
Gingilup-Jasper Wetland System	WA
Hosine's Spring, Christmas Island	EXT
Hutt Lagoon System	WA
Lake MacLeod	WA
Lake Thetis	WA

Wetland Name	State
Leslie (Port Hedland) Saltfields System	WA
Loch McNess System	WA
Mermaid Reef	EXT
Murchison River (Lower Reaches)	WA
Rottnest Island Lakes	WA
Shark Bay East	WA

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Alkimos Seawater Desalination	2019/8453		Completed
Ashburton Infrastructure Project	2021/9064		Completed
Balla Balla Export Facilities ? Design Variation	2022/09254		Assessment
Browse to North West Shelf Development, Indian Ocean, WA	2018/8319		Approval
Dampier Seawater Desalination Plant	2022/09395		Completed
Gorgon Gas Development	2003/1294		Post-Approval
Marine Route Survey for Subsea Fibre Optic Data Cable System - Australia West	2024/09826		Completed
Midwest Offshore Wind Farm	2022/09264		Assessment
Ningaloo Lighthouse Development, 17km north west Exmouth, Western Australia	2020/8693		Post-Approval
North West Shelf Project Extension, Carnarvon Basin, WA	2018/8335		Approval
Optimised Mardie Solar Salt Project	2022/9169		Approval
Project Highclere Cable Lay and Operation	2022/09203		Completed
Ridley Magnetite Project	2023/09477		Referral Decision
Samphire Offshore Wind Farm	2022/09306		Assessment

Title of referral	Reference	Referral Outcome	Assessment Status
Single Jetty Deep Water Port Renewable Hub, WA	2021/8942		Assessment
WA Offshore Windfarm	2021/8961		Completed
Yanchep Rail Extension, WA	2018/8262		Post-Approval
Yogi Magnetite Project, 225km east, northeast of Geraldton, WA	2017/8124		Assessment
Action clearly unacceptable			
Asian Renewable Energy Hub Revised Proposal, WA	2021/8891	Action Clearly Unacceptable	Completed
Highlands 3D Marine Seismic Survey	2012/6680	Action Clearly Unacceptable	Completed
Controlled action			
'Van Gogh' Petroleum Field Development	2007/3213	Controlled Action	Post-Approval
2-D seismic survey Scott Reef	2000/125	Controlled Action	Post-Approval
Airborne sonar trials	2001/540	Controlled Action	Completed
Albany Port Authority dredging project	2006/2540	Controlled Action	Post-Approval
Alkimos city centre and central development, WA	2015/7561	Controlled Action	Post-Approval
Alkimos Coastal Node	2020/8861	Controlled Action	Further Information Request
All weather access track road between Windy Harbour and Nelson Location 7965	2011/6121	Controlled Action	Post-Approval
Anketell Point Iron Ore Processing & Export Port	2009/5120	Controlled Action	Post-Approval
Asian Renewable Energy Hub, 220 km east of Port Hedland, Western Australia	2017/8112	Controlled Action	Post-Approval
Balmoral South Iron Ore Mine	2008/4236	Controlled Action	Post-Approval
Binowee Iron Ore Project	2001/366	Controlled Action	Proposed Decision
Boating Facility	2002/830	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Browse FLNG Development, Commonwealth Waters	2013/7079	Controlled Action	Post-Approval
Cape Lambert Port B Development	2008/4032	Controlled Action	Post-Approval
Catalina Residential Development	2010/5785	Controlled Action	Post-Approval
Christmas Island Airport Expansion	2001/434	Controlled Action	Post-Approval
Christmas Island Port Facility	2001/435	Controlled Action	Post-Approval
Coburn Mineral Sand Project	2003/1221	Controlled Action	Post-Approval
Conduct an exploration drilling campaign	2010/5718	Controlled Action	Completed
Construct and operate LNG & domestic gas plant including onshore and offshore facilities - Wheatston	2008/4469	Controlled Action	Post-Approval
Construction and operation of a Solar Salt Project, SW Onslow, WA	2016/7793	Controlled Action	Assessment Approach
construction and operation of a unmanned platform at the Cliff Head oil field, a	2003/1300	Controlled Action	Post-Approval
Construction of mobile phone tower	2002/694	Controlled Action	Completed
Construction of the Oakajee Port and Rail Project	2011/5797	Controlled Action	Post-Approval
Cultural Appearance Upgrade of the Chinese Literary Association Building	2007/3568	Controlled Action	Completed
Develop Ichthys gas-condensate field permit area W	2006/2767	Controlled Action	Completed
Develop Jansz-lo deepwater gas field in Permit Areas WA-18-R, WA-25-R and WA-26-	2005/2184	Controlled Action	Post-Approval
Development of Angel gas and condensate field, North West Shelf	2004/1805	Controlled Action	Post-Approval
Development of an iron ore mine and associated infrastructure	2010/5630	Controlled Action	Assessment Approach

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Development of Browse Basin Gas Fields (Upstream)	2008/4111	Controlled Action	Completed
Development of Coniston/Novara fields within the Exmouth Sub-basin	2011/5995	Controlled Action	Post-Approval
development of land based tourist facilities on Long Island	2006/2792	Controlled Action	Post-Approval
Development of Stybarrow petroleum field incl drilling and facility installation	2004/1469	Controlled Action	Post-Approval
East Christmas Island Phosphate Mines (9 sites)	2001/487	Controlled Action	Completed
Echo-Yodel Production Wells	2000/11	Controlled Action	Post-Approval
Eglinton/South Yanchep Residential Development	2011/6021	Controlled Action	Post-Approval
Eglinton Estates - Clearing of native vegetation from Lot 1007 & part Lot 1008	2010/5777	Controlled Action	Post-Approval
Enfield full field development	2001/257	Controlled Action	Post-Approval
Equus Gas Fields Development Project, Carnarvon Basin	2012/6301	Controlled Action	Completed
Eramurra Industrial Salt Project	2021/9027	Controlled Action	Assessment Approach
Eramurra Industrial Salt Project, near Karratha, WA	2019/8448	Controlled Action	Completed
Exploration for Mineable Phosphate, Christmas Island	2000/43	Controlled Action	Completed
Flat Rock boating facility	2008/4506	Controlled Action	Post-Approval
Gorgon Gas Development 4th Train Proposal	2011/5942	Controlled Action	Post-Approval
Gorgon Gas Revised Development	2008/4178	Controlled Action	Post-Approval
Greater Enfield (Vincent) Development	2005/2110	Controlled Action	Post-Approval
Greater Gorgon Development - Optical Fibre Cable, Mainland to Barrow Island	2005/2141	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Ichthys Gas Field, Offshore and onshore processing facilities and subsea pipeline	2008/4208	Controlled Action	Post-Approval
Jindee Residential Development	2012/6631	Controlled Action	Post-Approval
Karara Magnetite Project	2006/3017	Controlled Action	Post-Approval
Learmonth Bundle Site and Launchway, WA	2017/8079	Controlled Action	Completed
Light Crude Oil Production	2001/365	Controlled Action	Post-Approval
Lily Beach Recreational Facilities	2001/395	Controlled Action	Post-Approval
Lily Beach Rock Pool Development	2001/400	Controlled Action	Completed
Mardie Project, 80 km south west of Karratha, WA	2018/8236	Controlled Action	Post-Approval
Mauds Landing Marina	2000/98	Controlled Action	Completed
Milyeannup Wind Farm	2009/4911	Controlled Action	Post-Approval
Mitchell Freeway Extension between Burns Beach Rd and Hester Av, Neerabup, WA	2013/7091	Controlled Action	Post-Approval
Nava-1 Cable System	2001/510	Controlled Action	Completed
Ocean Reef Marina Development	2009/4937	Controlled Action	Completed
open cut mine & assoc infrastructure	2005/2381	Controlled Action	Post-Approval
Perdaman Urea Project, near Karratha, WA	2018/8383	Controlled Action	Post-Approval
Phosphate Mining in South Point Christmas Island	2012/6653	Controlled Action	Post-Approval
Pluto Gas Project	2005/2258	Controlled Action	Completed
Pluto Gas Project Including Site B	2006/2968	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Port Enhancement Project	2001/266	Controlled Action	Post-Approval
Port Hedland Outer Harbour Development and associated marine and terrestrial in	2008/4159	Controlled Action	Post-Approval
Port Hedland Spoilbank Marina, WA	2019/8520	Controlled Action	Post-Approval
Proposed exploration drilling programme for Christmas Island	2016/7779	Controlled Action	Completed
Proposed Urban Development of Lots 1005 & 1006	2008/4638	Controlled Action	Post-Approval
Proposed West Pilbara Iron Ore Project	2009/4706	Controlled Action	Post-Approval
Pyrenees Oil Fields Development	2005/2034	Controlled Action	Post-Approval
Residential development, Lot 609, Yanchep Beach Road, Yanchep, WA	2014/7146	Controlled Action	Post-Approval
Residential development Lot 1004 Alkimos WA	2011/5902	Controlled Action	Post-Approval
Road Upgrade/Construction between Lily Beach Road and Port Faci	2001/436	Controlled Action	Post-Approval
Salvage, transport and processing of phosphate resource with extended airport si	2003/1217	Controlled Action	Post-Approval
Shark Hazard Mitigation Drum Line Program, WA	2014/7174	Controlled Action	Completed
Shenton Park Subdivision	2004/1479	Controlled Action	Completed
Simpson Development	2000/59	Controlled Action	Completed
Simpson Oil Field Development	2001/227	Controlled Action	Post-Approval
The Scarborough Project - FLNG & assoc subsea infrastructure, Carnarvon Basin	2013/6811	Controlled Action	Post-Approval
Torosa South Initial Appraisal Drilling	2007/3500	Controlled Action	Completed
Tourism Facility and Associated Infrastructure	2005/2038	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Urban and Residential Development at Lot 9 Brighton	2011/6137	Controlled Action	Post-Approval
Vincent Appraisal Well	2000/22	Controlled Action	Post-Approval
Yannarie Solar Salt Project	2004/1679	Controlled Action	Completed
Yardie Creek Road Realignment Project	2021/8967	Controlled Action	Assessment Approach
Yellow Crazy Ant Biological Control	2013/6836	Controlled Action	Post-Approval
Not controlled action			
'Goodwyn A' Low Pressure Train Project	2003/914	Not Controlled Action	Completed
'Van Gogh' Oil Appraisal Drilling Program, Exploration Permit Area WA-155-P(1)	2006/3148	Not Controlled Action	Completed
3D marine seismic survey in WA 314P and WA 315P	2004/1927	Not Controlled Action	Completed
96-108 Gaze Road - Residential upgrade	2006/2632	Not Controlled Action	Completed
Adele Trend TQ3D Seismic Survey	2001/252	Not Controlled Action	Completed
Aerial Baiting, Yellow Crazy Ant Supercolonies, Christmas Island, WA	2019/8492	Not Controlled Action	Completed
Airlie Island soil and groundwater investigations, Exmouth Gulf, offshore Pilbara coast	2014/7250	Not Controlled Action	Completed
Alkimos seawater desalination plant, offshore investigations, WA	2018/8224	Not Controlled Action	Completed
Amberton West urban development - Part lot 9005 Eglington WA	2013/7068	Not Controlled Action	Completed
APX-West Fibre-optic telecommunications cable system, WA to Singapore	2013/7102	Not Controlled Action	Completed
archaeological surveys & excavation at historic sites, Cape Inscription	2006/3027	Not Controlled Action	Completed
Baniyas-1 Exploration Well, EP-424, near Onslow	2007/3282	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Barrow Island 2D Seismic survey	2006/2667	Not Controlled Action	Completed
Boat Ramp Construction	2001/237	Not Controlled Action	Completed
Bollinger 2D Seismic Survey 200km North of North West Cape WA	2004/1868	Not Controlled Action	Completed
Building of a carport adjacent to residential house	2004/1538	Not Controlled Action	Completed
Bultaco-2, Laverda-2, Laverda-3 and Montesa-2 Appraisal Wells	2000/103	Not Controlled Action	Completed
Busselton to Flinders Bay Rails to Trails Project, WA	2013/6835	Not Controlled Action	Completed
Cape Lambert Port A Marine Structures Refurbishment Project	2018/8370	Not Controlled Action	Completed
Carnarvon 3D Marine Seismic Survey	2004/1890	Not Controlled Action	Completed
Cazadores 2D seismic survey	2004/1720	Not Controlled Action	Completed
Christmas Island/Construction of a double storey shed/carport at MQ387 Gaze Road	2004/1561	Not Controlled Action	Completed
Christmas Island Fuel Consolidation Project, Christmas Island	2012/6454	Not Controlled Action	Completed
Cliff Head 6 appraisal well	2004/1702	Not Controlled Action	Completed
Cliff Head Appraisal Wells	2003/938	Not Controlled Action	Completed
Community Recreation Centre	2003/1279	Not Controlled Action	Completed
Construct 110km buried natural gas pipeline from Onslow, connecting to Dampier/Bunbury natural gas p	2013/7039	Not Controlled Action	Completed
Construction and operation of an unmanned sea platform and connecting pipeline to Varanus Island for	2004/1703	Not Controlled Action	Completed
Construction of a Commodities Berth, Wharf and Associated Infrastructure	2008/4129	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Construction of several passing lanes between Lancelin and Jurien Bay, WA	2015/7509	Not Controlled Action	Completed
Container Deposit Scheme Project	2019/8517	Not Controlled Action	Completed
Controlled Source Electromagnetic Survey	2007/3262	Not Controlled Action	Completed
courtyard shower & handbasin facilities	2006/2803	Not Controlled Action	Completed
CTBT - Cape Leeuwin Hydroacoustic Station Proposal	2000/27	Not Controlled Action	Completed
Development of Halyard Field off the west coast of WA	2010/5611	Not Controlled Action	Completed
Development of iron ore facilities	2013/7013	Not Controlled Action	Completed
Development of Mutineer and Exeter petroleum fields for oil production, Permit	2003/1033	Not Controlled Action	Completed
Development of new Alkimos Wastewater Treatment Plant	2007/3259	Not Controlled Action	Completed
Differential Global Positioning System (DGPS)	2001/445	Not Controlled Action	Completed
Drilling between Kalbarri and Cliff Head	2005/2185	Not Controlled Action	Completed
Drilling of an exploration well Gats-1 in Permit Area WA-261-P	2004/1701	Not Controlled Action	Completed
Drilling of exploration wells, Permit areas WA-301-P to WA-305-P	2002/769	Not Controlled Action	Completed
Dwelling demolition, maintenance and carpark/carport/storage shed works	2004/1837	Not Controlled Action	Completed
Eagle-1 Exploration Drilling, North West Shelf, WA	2019/8578	Not Controlled Action	Completed
Echo A Development WA-23-L, WA-24-L	2005/2042	Not Controlled Action	Completed
Eradication of the European House Borer, Perth metropolitan area, WA	2009/5027	Not Controlled Action	Completed
Establishment of a 12.7 ha Gypsum Mine	2007/3398	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Expansion of the Sino Iron Ore Mine and export facilities, Cape Preston, WA	2017/7862	Not Controlled Action	Completed
Expansion Proposal, Mineralogy Cape Preston Iron Ore Project, Cape Preston, WA	2009/5010	Not Controlled Action	Completed
Expedition 369-Australian Cretaceous Climate and Tectonics, Australian EEZ waters	2017/7891	Not Controlled Action	Completed
Exploration drilling program located in exploration permits WA-286-P and TP/15	2002/676	Not Controlled Action	Completed
Exploration drilling well WA-155-P(1)	2003/971	Not Controlled Action	Completed
Exploration of appraisal wells	2006/3065	Not Controlled Action	Completed
Exploration Well (Taunton-2)	2002/731	Not Controlled Action	Completed
Exploration Well in Permit Area WA-155-P(1)	2002/759	Not Controlled Action	Completed
Exploratory drilling in permit area WA-225-P	2001/490	Not Controlled Action	Completed
Extension of a Masonary Brick Wall adjacent to the Poon Saan Club by 500 mm	2004/1564	Not Controlled Action	Completed
Extension of Simpson Oil Platforms & Wells	2002/685	Not Controlled Action	Completed
Extention to the existing Blind Strait Black Lip Pearl Oyster Farm	2004/1342	Not Controlled Action	Completed
Flying Fish Cove Christmas Island Boat Ramp Maintenance	2021/8924	Not Controlled Action	Completed
Flying Fish Cove Landslide Mitigation Project	2020/8616	Not Controlled Action	Completed
Fremantle Ports Inner Harbour Capital Dredging Proposal	2005/2477	Not Controlled Action	Completed
Garage and Office Facilities	2004/1919	Not Controlled Action	Completed
Geo-science Investigations	2005/2069	Not Controlled Action	Completed
Gulf Fishing Lodge	2010/5499	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Hadda 1,Flying Foam 1,Magnat 1 exploration drill	2004/1697	Not Controlled Action	Completed
HCA05X Macedon Experimental Survey	2004/1926	Not Controlled Action	Completed
Hess Exploration Drilling Programme	2007/3566	Not Controlled Action	Completed
Housing and Garden Maintenance Works	2004/1487	Not Controlled Action	Completed
Huascaran-1 exploration well (WA-292-P)	2001/539	Not Controlled Action	Completed
Hydroponics Research Program	2007/3338	Not Controlled Action	Completed
Identification of unmarked grave, exhumation/identification of remains which may belong to a sailor	2006/2992	Not Controlled Action	Completed
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed
Indian Ocean Drive Passing Lane and Widening 52-258 SLK	2017/7884	Not Controlled Action	Completed
Indian Ocean Drive Widening, Gingin Shire, WA	2018/8346	Not Controlled Action	Completed
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed
INDIGO West Submarine Telecommunications Cable, WA	2017/8126	Not Controlled Action	Completed
Infill Production Well (Griffin-9)	2001/417	Not Controlled Action	Completed
Internal and external modifications Lot 1014 Gaze Road	2004/1807	Not Controlled Action	Completed
Jansz-2 and 3 Appraisal Wells	2002/754	Not Controlled Action	Completed
Klammer 2D Seismic Survey	2002/868	Not Controlled Action	Completed
Lancelin Caravan Park Project, Hopkins Dve & Casserley Way, Lancelin	2015/7546	Not Controlled Action	Completed
larvaciding of potential mosquito breeding wetlands	2006/2601	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Light Industrial Subdivision Development	2004/1799	Not Controlled Action	Completed
Lot 1056 Extensions and Alterations	2004/1801	Not Controlled Action	Completed
Mahimahi Aquaculture Facility	2002/891	Not Controlled Action	Completed
Maia-Gaea Exploration wells	2000/17	Not Controlled Action	Completed
Maintenance of Tai Jin House, Smith Point	2009/4933	Not Controlled Action	Completed
Manaslu - 1 and Huascaran - 1 Offshore Exploration Wells	2001/235	Not Controlled Action	Completed
Marine Survey for the Australia-ASEAN Power Link AAPL	2020/8714	Not Controlled Action	Completed
Mermaid Marine Australia Desalination Project	2011/5916	Not Controlled Action	Completed
Mobile Radio Communications System Upgrade	2002/718	Not Controlled Action	Completed
Montesa-1 and Bultaco-1 Exploration Wells	2000/102	Not Controlled Action	Completed
Murujuga archaeological excavation, collection and sampling, Dampier Archipelago, WA	2014/7160	Not Controlled Action	Completed
North Rankin B gas compression facility	2005/2500	Not Controlled Action	Completed
Ocean Reef Marina Development, City of Joondalup, WA	2014/7237	Not Controlled Action	Completed
Oman Australia Cable Installation, WA	2021/8922	Not Controlled Action	Completed
Oman Australia Cable - Marine Route Survey	2020/8731	Not Controlled Action	Completed
Onslow Power Infrastructure Upgrade Project, Onslow, WA	2014/7314	Not Controlled Action	Completed
Onslow Water Supply Infrastructure Upgrade Project, Onslow, WA	2014/7329	Not Controlled Action	Completed
P30 Hydrocarbon Exploration Well	2001/293	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Pipeline System Modifications Project	2000/3	Not Controlled Action	Completed
Placement of bitumen/ concrete on rail sections of heritage listed incline, Christmas Island	2013/7009	Not Controlled Action	Completed
Port Expansion and Dredging	2003/1265	Not Controlled Action	Completed
Port Hedland Channel Risk and Optimisation Project, WA	2017/7915	Not Controlled Action	Completed
Power Station Diesel Generator Replacement	2009/4685	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Proposed sale or lease of Crown land, 11 lots, Christmas Island	2018/8220	Not Controlled Action	Completed
Quinns Main sewer extension, Clarkson - Neerabup, WA	2018/8215	Not Controlled Action	Completed
Rail and Port Facilities	2001/474	Not Controlled Action	Completed
Realignment of Gaze Road Service Road and Gaze Road Junction	2004/1735	Not Controlled Action	Completed
Refurbishment and Extension of Seaview Lodge	2012/6353	Not Controlled Action	Completed
renovate free-standing servant's quarters	2006/2811	Not Controlled Action	Completed
Replacement of deteriorating flat roof at rear of Mosque and extending side verandahs, Christmas Is	2013/6851	Not Controlled Action	Completed
Residential development, Lots 9010 and 9031, Yanchep Beach Rd, Yanchep	2016/7642	Not Controlled Action	Completed
Residential Development Eglinton West, Lot 5000 & part Lot 5001, Pipidinny Road, Eglinton	2014/7137	Not Controlled Action	Completed
Residential-Rural Subdivision, Lot 1 Kudardup Rd, Kudardup, WA	2012/6471	Not Controlled Action	Completed
residential subdivision	2005/1965	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Residential upgrade, 2 Coconut Grove	2007/3295	Not Controlled Action	Completed
Rottnest Lodge Redevelopment	2019/8565	Not Controlled Action	Completed
Scientific Sonar Trial	2002/680	Not Controlled Action	Completed
Searipple gas and condensate field development	2000/89	Not Controlled Action	Completed
Seismic Survey, Bremer Basin, Mentelle Basin and Zeewyck Sub-basin	2004/1700	Not Controlled Action	Completed
Spool Base Facility	2001/263	Not Controlled Action	Completed
Stormwater Remediation Project, Christmas Island	2019/8467	Not Controlled Action	Completed
Subdivision of Lot 571 on DP 26701	2008/4230	Not Controlled Action	Completed
Subdivision of Part 7 of Lot 1014	2009/4851	Not Controlled Action	Completed
Subsea Gas Pipeline From Stybarrow Field to Griffin Venture Gas Export Pipeline	2005/2033	Not Controlled Action	Completed
sub-sea tieback of Perseus field wells	2004/1326	Not Controlled Action	Completed
Supermarket Extensions	2006/2515	Not Controlled Action	Completed
Telfer Gold Mine Project - Mine and Borefield Extensions and Upgrade of Storage	2002/787	Not Controlled Action	Completed
Telstra North Rankin Spur Fibre Optic Cable	2016/7836	Not Controlled Action	Completed
Thevenard Island Retirement Project	2015/7423	Not Controlled Action	Completed
To construct and operate an offshore submarine fibre optic cable, WA	2014/7373	Not Controlled Action	Completed
Upgrade of Residence, Coconut Grove	2006/2728	Not Controlled Action	Completed
Vegetation clearing for sand extraction, Lot 268 Leeuwin Road, Augusta	2013/6860	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Verandah Extension to Existing Breezeway Unit, Gaze Road	2005/1970	Not Controlled Action	Completed
WA-286-P Exploration Drilling Programme	2007/3863	Not Controlled Action	Completed
WA-295-P Kerr-McGee Exploration Wells	2001/152	Not Controlled Action	Completed
Walkway Lighting Upgrade	2009/4965	Not Controlled Action	Completed
Wanda Offshore Research Project, 80 km north-east of Exmouth, WA	2018/8293	Not Controlled Action	Completed
Western Flank Gas Development	2005/2464	Not Controlled Action	Completed
Wheatstone 3D seismic survey, 70km north of Barrow Island	2004/1761	Not Controlled Action	Completed
Yellowfin Tuna Aquaculture Trial	2003/1115	Not Controlled Action	Completed
Yngling-1 exploration well for WA-368-P	2007/3523	Not Controlled Action	Completed
Not controlled action (particular manner)			
'Kate' 3D marine seismic survey, exploration permits WA-320-P and WA-345-P, 60km	2005/2037	Not Controlled Action (Particular Manner)	Post-Approval
'Tourmaline' 2D marine seismic survey, permit areas WA-323-P, WA-330-P and WA-32	2005/2282	Not Controlled Action (Particular Manner)	Post-Approval
"Leanne" offshore 3D seismic exploration, WA-356-P	2005/1938	Not Controlled Action (Particular Manner)	Post-Approval
2 (3D) Marine Seismic Surveys	2009/4994	Not Controlled Action (Particular Manner)	Completed
2D and 3D seismic surveys	2005/2151	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey	2012/6296	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
2D Marine Seismic Survey	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval
2D Marine Seismic Survey in Permit Area WA-337-P	2003/1158	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey	2007/3273	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey	2008/4493	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic survey	2009/5076	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey	2005/2146	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey in permit areas WA-274P and WA-281P	2004/1521	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey Permit Area WA-352-P	2008/4628	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey within permit WA-291	2007/3265	Not Controlled Action (Particular Manner)	Post-Approval
2 geotechnical surveys - preliminary and final	2006/2886	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey	2008/4281	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey	2007/3800	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)		Manner)	
3D Marine Seismic Survey	2008/4437	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey (WA-482-P, WA-363-P), WA	2013/6761	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in Permit Areas WA-15-R, WA-18-R, WA-205-P, WA-253-P, WA-267-P and WA-268-P	2003/1271	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in WA 457-P & WA 458-P, North West Shelf, offshore WA	2013/6862	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic Survey - Maxima 3D MSS	2006/2945	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey over petroleum title WA-268-P	2007/3458	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Surveys - Contos CT-13 & Supertubes CT-13, offshore WA	2013/6901	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey Within WA-382-P	2007/3799	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey	2006/2715	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, Browse Basin, WA	2009/5048	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, near Scott Reef, Browse Basin	2005/2126	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
3D Seismic Survey, WA	2008/4428	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey in the Carnarvon Bsin on the North West Shelf	2002/778	Not Controlled Action (Particular Manner)	Post-Approval
3D sesmic survey	2006/2781	Not Controlled Action (Particular Manner)	Post-Approval
Acheron Non-Exclusive 2D Seismic Survey	2008/4565	Not Controlled Action (Particular Manner)	Post-Approval
Acheron Non-Exclusive 2D Seismic Survey	2009/4968	Not Controlled Action (Particular Manner)	Post-Approval
Addition of Verandah to Block of Four Units	2005/2315	Not Controlled Action (Particular Manner)	Post-Approval
Aerial Baiting of Yellow Crazy Ants	2012/6438	Not Controlled Action (Particular Manner)	Post-Approval
Agrippina 3D Seismic Marine Survey	2009/5212	Not Controlled Action (Particular Manner)	Post-Approval
Apache Northwest Shelf Van Gogh Field Appraisal Drilling Program	2007/3495	Not Controlled Action (Particular Manner)	Post-Approval
Aperio 3D Marine Seismic Survey, WA	2012/6648	Not Controlled Action (Particular Manner)	Post-Approval
Artemis-1 Drilling Program (WA-360-P)	2010/5432	Not Controlled Action (Particular Manner)	Post-Approval
Asbestos Removal from Commonwealth Owned Assests including Commonwealth Heritage	2009/4873	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)		Manner)	
Aurora MC3D Marine Seismic Survey	2010/5510	Not Controlled Action (Particular Manner)	Post-Approval
Australia to Singapore Fibre Optic Submarine Cable System	2011/6127	Not Controlled Action (Particular Manner)	Post-Approval
Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA	2013/7081	Not Controlled Action (Particular Manner)	Post-Approval
Baiting Efficacy Trial of Feral Cat Bait and PAPP Toxicant	2008/4383	Not Controlled Action (Particular Manner)	Post-Approval
Balnaves Condensate Field Development	2011/6188	Not Controlled Action (Particular Manner)	Post-Approval
Bonaventure 3D seismic survey	2006/2514	Not Controlled Action (Particular Manner)	Post-Approval
Bremer Basin 2D Marine Seismic Survey, WA	2009/5013	Not Controlled Action (Particular Manner)	Post-Approval
Cable Seismic Exploration Permit areas WA-323-P and WA-330-P	2008/4227	Not Controlled Action (Particular Manner)	Post-Approval
Cape Preston East - Iron Ore Export Facilities, Pilbara, WA	2013/6844	Not Controlled Action (Particular Manner)	Post-Approval
Cartier East and Cartier West 3D Marine Seismic Surveys	2009/5230	Not Controlled Action (Particular Manner)	Post-Approval
Caswell MC3D Marine Seismic Survey	2012/6594	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Cerberus exploration drilling campaign, Carnarvon Basin, WA	2016/7645	Not Controlled Action (Particular Manner)	Post-Approval
CETO 6 Garden Island Project, offshore WA	2016/7635	Not Controlled Action (Particular Manner)	Post-Approval
CETO 6 Geophysical and Geotechnical Surveys	2014/7408	Not Controlled Action (Particular Manner)	Post-Approval
CGGVERITAS 2010 2D Seismic Survey	2010/5714	Not Controlled Action (Particular Manner)	Post-Approval
Charon 3D Marine Seismic Survey	2007/3477	Not Controlled Action (Particular Manner)	Post-Approval
Commonwealth Marine/Flying Fish Cove Jetty Extension	2012/6675	Not Controlled Action (Particular Manner)	Post-Approval
Conduct an exploration drilling campaign	2011/5964	Not Controlled Action (Particular Manner)	Post-Approval
Consturction & operation of the Varanus Island kitchen & mess cyclone refuge building, compression p	2013/6952	Not Controlled Action (Particular Manner)	Post-Approval
Coverack Marine Seismic Survey	2001/399	Not Controlled Action (Particular Manner)	Post-Approval
Crazy Ant Aerial Baiting Control Program	2002/722	Not Controlled Action (Particular Manner)	Post-Approval
Cue Seismic Survey within WA-359-P, WA-361-P and WA-360-P	2007/3647	Not Controlled Action (Particular Manner)	Post-Approval
CVG 3D Marine Seismic Survey	2012/6654	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)		Manner)	
DAVROS MC 3D marine seismic survey northwaet of Dampier, WA	2013/7092	Not Controlled Action (Particular Manner)	Post-Approval
Decommissioning of the Legendre facilities	2010/5681	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Drilling Program	2010/5532	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval
Demeter 3D Seismic Survey, off Dampier, WA	2002/900	Not Controlled Action (Particular Manner)	Post-Approval
develop and operate a new deepwater port	2010/5760	Not Controlled Action (Particular Manner)	Post-Approval
Diesel Fuel Bunker Operation	2012/6289	Not Controlled Action (Particular Manner)	Post-Approval
Draeck 3D Marine Seismic Survey, WA-205-P	2006/3067	Not Controlled Action (Particular Manner)	Post-Approval
Dredging of marine sediment to enable construction of eight berths and a turnin	2010/5678	Not Controlled Action (Particular Manner)	Post-Approval
Drilling 35-40 offshore exploration wells in deep water	2008/4461	Not Controlled Action (Particular Manner)	Post-Approval
Earthworks for kitchen/mess, cyclone refuge building & Compression Plant, Varanus Island	2013/6900	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Eendracht Multi-Client 3D Marine Seismic Survey	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
Effect of marine seismic sounds to demersal fish and pearl oysters, north-west WA	2018/8169	Not Controlled Action (Particular Manner)	Post-Approval
Endurance 3D Marine Seismic Data Acquisition Survey	2007/3667	Not Controlled Action (Particular Manner)	Post-Approval
Enfield M3 & Vincent 4D Marine Seismic Surveys	2008/3981	Not Controlled Action (Particular Manner)	Completed
Enfield M3 4D, Vincent 4D & 4D Line Test Marine Seismic Surveys	2008/4122	Not Controlled Action (Particular Manner)	Post-Approval
Enfield M4 4D Marine Seismic Survey	2008/4558	Not Controlled Action (Particular Manner)	Post-Approval
Enfield oilfield 3D Seismic Survey	2006/3132	Not Controlled Action (Particular Manner)	Post-Approval
Exmouth West 2D Marine Seismic Survey	2008/4132	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Campaign	2011/6047	Not Controlled Action (Particular Manner)	Post-Approval
Exploration drilling of Zeus-1 well	2008/4351	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Program - Permit areas - WA-314-P, WA-315-P, WA-398-P.	2008/4064	Not Controlled Action (Particular Manner)	Post-Approval
Fletcher-Finucane Development, WA26-L and WA191-P	2011/6123	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)		Manner)	
Foxhound 3D Non-Exclusive Marine Seismic Survey	2009/4703	Not Controlled Action (Particular Manner)	Post-Approval
Gazelle 3D Marine Seismic Survey in WA-399-P and WA-42-L	2010/5570	Not Controlled Action (Particular Manner)	Post-Approval
Geco Eagle 3D Marine Seismic Survey	2008/3958	Not Controlled Action (Particular Manner)	Post-Approval
Geoscience Australia - Marine survey in Browse Basin to acquire data to assist assessment of CO2 sto	2013/6747	Not Controlled Action (Particular Manner)	Post-Approval
Gicea 3D Marine Seismic Survey	2008/4389	Not Controlled Action (Particular Manner)	Post-Approval
Gigas 2D Pilot Ocean Bottom Cable Marine Seismic Survey	2007/3839	Not Controlled Action (Particular Manner)	Post-Approval
Glencoe 3D Marine Seismic Survey WA-390-P	2007/3684	Not Controlled Action (Particular Manner)	Post-Approval
Grand Southern Margin 2D Marine Seismic Survey	2008/4599	Not Controlled Action (Particular Manner)	Post-Approval
Greater Western Flank Phase 1 gas Development	2011/5980	Not Controlled Action (Particular Manner)	Post-Approval
Grimalkin 3D Seismic Survey	2008/4523	Not Controlled Action (Particular Manner)	Post-Approval
Guacamole 2D Marine Seismic Survey	2008/4381	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Harmony 3D Marine Seismic Survey	2012/6699	Not Controlled Action (Particular Manner)	Post-Approval
Harpy 1 exploration well	2001/183	Not Controlled Action (Particular Manner)	Post-Approval
Helicopter baiting of exotic yellow crazy ant supercolonies, Christmas Island, Indian Ocean	2009/5016	Not Controlled Action (Particular Manner)	Post-Approval
Honeycombs MC3D Marine Seismic Survey	2012/6368	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas phase 2 marine seismic survey, Exmouth Plateau, Northern Carnarvon Basin, WA	2013/7093	Not Controlled Action (Particular Manner)	Post-Approval
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval
John Ross & Rosella Off Bottom Cable Seismic Exploration Program	2008/3966	Not Controlled Action (Particular Manner)	Post-Approval
Judo Marine 3D Seismic Survey within and adjacent to WA-412-P	2009/4801	Not Controlled Action (Particular Manner)	Post-Approval
Judo Marine 3D Seismic Survey within and adjacent to WA-412-P	2008/4630	Not Controlled Action (Particular Manner)	Post-Approval
Julimar Brunello Gas Development Project	2011/5936	Not Controlled Action (Particular Manner)	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)		Manner)	
Klimt 2D Marine Seismic Survey	2007/3856	Not Controlled Action (Particular Manner)	Post-Approval
Koolama 2D Seismic Survey Dampier Basin	2010/5420	Not Controlled Action (Particular Manner)	Post-Approval
Kraken, Lusca & Asperus 3D Marine Seismic Survey	2013/6730	Not Controlled Action (Particular Manner)	Post-Approval
Laverda 3D Marine Seismic Survey and Vincent M1 4D Marine Seismic Survey	2010/5415	Not Controlled Action (Particular Manner)	Post-Approval
Laying a submarine optical fibre telecommunications cable, Perth to Singapore and Jakarta	2014/7332	Not Controlled Action (Particular Manner)	Post-Approval
Leopard 2D marine seismic survey	2005/2290	Not Controlled Action (Particular Manner)	Post-Approval
Lion 2D Marine Seismic Survey	2007/3777	Not Controlled Action (Particular Manner)	Post-Approval
Macedon Gas Field Development	2008/4605	Not Controlled Action (Particular Manner)	Post-Approval
Marine Environmental Survey	2012/6275	Not Controlled Action (Particular Manner)	Post-Approval
Marine Geotechnical Drilling Program	2008/4012	Not Controlled Action (Particular Manner)	Post-Approval
Marine reconnaissance survey	2008/4466	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Mariner Non-Exclusive 2D Seismic Survey	2011/6172	Not Controlled Action (Particular Manner)	Post-Approval
Marine Seismic Survey for oil and gas in Commonwealth waters off the WA coast.	2004/1802	Not Controlled Action (Particular Manner)	Post-Approval
Marine Seismic Survey in Permit WA-481P	2012/6626	Not Controlled Action (Particular Manner)	Post-Approval
Millstream 20GL Pipeline, Bungaroo, Borefield Integration	2012/6379	Not Controlled Action (Particular Manner)	Post-Approval
Moosehead 2D seismic survey within permit WA-192-P	2005/2167	Not Controlled Action (Particular Manner)	Post-Approval
Munmorah 2D seismic survey within permits WA-308/9-P	2003/970	Not Controlled Action (Particular Manner)	Post-Approval
Nelson Point Dredging	2009/4920	Not Controlled Action (Particular Manner)	Post-Approval
New Housing Program	2011/6056	Not Controlled Action (Particular Manner)	Post-Approval
Nexus Energy Seismic survey WA	2006/2569	Not Controlled Action (Particular Manner)	Post-Approval
North Perth Marine Survey	2011/6067	Not Controlled Action (Particular Manner)	Post-Approval
Ocean Bottom Cable Seismic Program, WA-264-P	2007/3844	Not Controlled Action (Particular Manner)	Post-Approval
Ocean Bottom Cable Seismic Survey	2005/2017	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)		Manner)	
Offshore Canning Multi Client 2D Marine Seismic Survey	2010/5393	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Drilling Campaign	2011/5830	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to Darwin NT	2014/7223	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Gas Exploration Drilling Campaign	2012/6384	Not Controlled Action (Particular Manner)	Post-Approval
Onslow Seawater Desalination Plant Marine Geophysical Investigation	2020/8794	Not Controlled Action (Particular Manner)	Post-Approval
Orcus 3D Marine Seismic Survey in WA-450-P	2010/5723	Not Controlled Action (Particular Manner)	Post-Approval
Osprey and Dionysus Marine Seismic Survey	2011/6215	Not Controlled Action (Particular Manner)	Post-Approval
Outer Canning exploration drilling program off NW coast of WA	2012/6618	Not Controlled Action (Particular Manner)	Post-Approval
Palta-1 exploration well in Petroleum Permit Area WA-384-P	2011/5871	Not Controlled Action (Particular Manner)	Post-Approval
Phoenix 3D Seismic Survey, Bedout Sub-Basin	2010/5360	Not Controlled Action (Particular Manner)	Post-Approval
Pilot Appraisal Well - Torosa South 1	2008/3991	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Pomodoro 3D Marine Seismic Survey in WA-426-P and WA-427-P	2010/5472	Not Controlled Action (Particular Manner)	Post-Approval
Port Headland Outer Harbour Pre-construction Pilling program	2012/6341	Not Controlled Action (Particular Manner)	Post-Approval
Port of Port Hedland channel marker replacement project, WA	2017/8010	Not Controlled Action (Particular Manner)	Post-Approval
Port Walcott upgrade, dredging & spoil disposal, & channel realignment	2006/2806	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees 4D Marine Seismic Monitor Survey, HCA12A	2012/6579	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees-Macedon 3D marine seismic survey	2005/2325	Not Controlled Action (Particular Manner)	Post-Approval
Quiberon 2D Seismic Survey, permit area WA-385P, offshore of Carnarvon	2009/5077	Not Controlled Action (Particular Manner)	Post-Approval
Reindeer gas reservior development, Devil Creek, Carnarvon Basin - WA	2007/3917	Not Controlled Action (Particular Manner)	Post-Approval
Repsol 3d & 2D Marine Seismic Survey	2012/6658	Not Controlled Action (Particular Manner)	Post-Approval
Rose 3D Seismic Program	2008/4239	Not Controlled Action (Particular Manner)	Post-Approval
Rosebud 3D Marine Seismic Survey in WA-30-R and TR/5	2012/6493	Not Controlled Action (Particular Manner)	Post-Approval
Rydal-1 Petroleum Exploration Well, WA	2012/6522	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)		Manner)	
Salsa 3D Marine Seismic Survey	2010/5629	Not Controlled Action (Particular Manner)	Post-Approval
Santos Winchester three dimensional seismic survey - WA-323-P & WA-330-P	2011/6107	Not Controlled Action (Particular Manner)	Post-Approval
Scarborough Development nearshore component, NWS, WA	2018/8362	Not Controlled Action (Particular Manner)	Post-Approval
Schild MC3D Marine Seismic Survey	2012/6373	Not Controlled Action (Particular Manner)	Post-Approval
Schild Phase 11 MC3D Marine Seismic Survey, Browse Basin	2013/6894	Not Controlled Action (Particular Manner)	Post-Approval
Scott Reef Seismic Research	2006/2647	Not Controlled Action (Particular Manner)	Post-Approval
Searcher bathymetry & geochemical seismic survey, Browse Basin, Timor Sea, WA	2013/6980	Not Controlled Action (Particular Manner)	Post-Approval
search for HMAS Sydney	2006/3071	Not Controlled Action (Particular Manner)	Post-Approval
Skorpion Marine Seismic Survey WA	2001/416	Not Controlled Action (Particular Manner)	Post-Approval
South West Metropolitan Railway Project	2003/1175	Not Controlled Action (Particular Manner)	Post-Approval
Sovereign 3D Marine Seismic Survey	2011/5861	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Stag 4D & Reindeer MAZ Marine Seismic Surveys, WA	2013/7080	Not Controlled Action (Particular Manner)	Post-Approval
Stag Off-bottom Cable Seismic Survey	2007/3696	Not Controlled Action (Particular Manner)	Post-Approval
Study of behavioural responses of Austn Humpback Whales to seismic surveys, offshore Dongara, WA	2013/6927	Not Controlled Action (Particular Manner)	Post-Approval
Stybarrow 4D Marine Seismic Survey	2011/5810	Not Controlled Action (Particular Manner)	Post-Approval
Stybarrow Baseline 4D marine seismic survey	2008/4530	Not Controlled Action (Particular Manner)	Post-Approval
Supply of road building material areas Shark Bay Region WA	2012/6280	Not Controlled Action (Particular Manner)	Post-Approval
Swimming Pool modification	2007/3312	Not Controlled Action (Particular Manner)	Post-Approval
Tantabiddi Boat Ramp Sand Bypassing	2015/7411	Not Controlled Action (Particular Manner)	Post-Approval
The Dampier Heavy Load Out Facility Berth and Swing Basin Expansion	2012/6271	Not Controlled Action (Particular Manner)	Post-Approval
Tidepole Maz 3D Seismic Survey Campaign	2007/3706	Not Controlled Action (Particular Manner)	Post-Approval
Tiffany 3D Seismic Survey	2010/5339	Not Controlled Action (Particular Manner)	Post-Approval
Torosa-5 Apraisal Well, WA-30-R	2008/4430	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)		Manner)	
Tortilla 2D Seismic Survey, WA	2011/6110	Not Controlled Action (Particular Manner)	Post-Approval
Trials of a bait delivery system for the control of Yellow Crazy Ants	2009/4763	Not Controlled Action (Particular Manner)	Post-Approval
Tridacna 3D Ocean Bottom Cable Marine Seismic Survey	2011/5959	Not Controlled Action (Particular Manner)	Post-Approval
Triton 3D Marine Seismic Survey, WA-2-R and WA-3-R	2006/2609	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a 3D marine seismic survey	2010/5695	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a three dimensional marine seismic survey	2010/5679	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a three dimensional marine seismic survey	2010/5715	Not Controlled Action (Particular Manner)	Post-Approval
upgrade of 3 community recreation sites	2005/2349	Not Controlled Action (Particular Manner)	Post-Approval
Vampire 2D Non Exclusive Seismic Survey, WA	2010/5543	Not Controlled Action (Particular Manner)	Post-Approval
Veritas Voyager 2D Marine Seismic Survey	2009/5151	Not Controlled Action (Particular Manner)	Post-Approval
Vincent M1 and Enfield M5 4D Marine Seismic Survey	2010/5720	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Warramunga Non-Inclusive 3D Seismic Survey	2008/4553	Not Controlled Action (Particular Manner)	Post-Approval
Water supply upgrade	2005/2269	Not Controlled Action (Particular Manner)	Post-Approval
West Anchor 3D Marine Seismic Survey	2008/4507	Not Controlled Action (Particular Manner)	Post-Approval
West Panaeus 3D seismic survey	2006/3141	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone 3D MAZ Marine Seismic Survey	2011/6058	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone Iago Appraisal Well Drilling	2008/4134	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone Iago Appraisal Well Drilling	2007/3941	Not Controlled Action (Particular Manner)	Post-Approval
Woodside Southern Browse 3D Seismic Survey, WA	2007/3534	Not Controlled Action (Particular Manner)	Post-Approval
Zeemeermin MC3D seismic survey, Browse Basin, Offshore WA	2009/5023	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
2D Marine Seismic Survey	2008/4623	Referral Decision	Completed
3D Marine Seismic survey	2007/3729	Referral Decision	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Referral decision			
3D Marine Seismic survey	2007/3725	Referral Decision	Completed
3D Marine Seismic Survey in the offshore northwest Carnarvon Basin	2011/6175	Referral Decision	Completed
3D Seismic Survey	2012/6245	Referral Decision	Completed
3D Seismic Survey	2008/4219	Referral Decision	Completed
Alterations and Improvements to existing residence at Lot 3015 Gaze Rd, Christmas Island	2009/5039	Referral Decision	Completed
Aurora extension MC3D Marine Seismic Survey	2011/5887	Referral Decision	Completed
Bianchi 3D Marine Seismic Survey, Carnavon Basin, WA	2013/7078	Referral Decision	Completed
CO2 3D Seismic Survey Vlaming Sub-Basin	2012/6343	Referral Decision	Completed
CVG 3D Marine Seismic Survey	2012/6270	Referral Decision	Completed
Enfield 4D Marine Seismic Surveys, Production Permit WA-28-L	2005/2370	Referral Decision	Completed
Experimental Study of Behavioural and Physiological Impact on Fish of Seismic Ex	2006/2625	Referral Decision	Completed
Exploration Drilling 2014/2015 WA-481-P	2013/7043	Referral Decision	Completed
Grand Southern Margin 2D Marine Seismic Survey	2008/4573	Referral Decision	Completed
Mardie Salt Project, Pilbara region, WA	2018/8183	Referral Decision	Completed
Narelle 3D Marine Seismic Survey	2008/4575	Referral Decision	Completed
Outer Harbour Development and associated marine and terrestrial infrastructure	2008/4148	Referral Decision	Completed
Pilot Appraisal Well - Torosa South-1	2008/3985	Referral Decision	Completed
Proposed exploration drilling activities, Abrolhos Commonwealth Marine Reserve	2013/6949	Referral Decision	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Referral decision			
Residential Subdivision of 60ha, Swan Location 2424	2004/1928	Referral Decision	Completed
Rocky Point Dwelling Redevelopment	2005/2203	Referral Decision	Referral Decision
Rose 3D Seismic acquisition survey	2008/4220	Referral Decision	Completed
Seismic Data Acquisition, Browse Basin	2010/5475	Referral Decision	Completed
Sonar Trials and Acoustic Trials	2001/538	Referral Decision	Completed
Stybarrow Baseline 4D Marine Seismic Survey (Permit Areas WA-255-P, WA-32-L, WA-	2008/4165	Referral Decision	Completed
Two Dimensional Transition Zone Seismic Survey - TP/7 (R1)	2010/5507	Referral Decision	Completed
Varanus Island Compression Project	2012/6698	Referral Decision	Completed

Key Ecological Features [Resource Information]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Albany Canyons group and adjacent shelf break	South-west
Ancient coastline at 125 m depth contour	North-west
Ancient coastline at 90-120m depth	South-west
Ashmore Reef and Cartier Island and surrounding Commonwealth waters	North-west
Canyons linking the Argo Abyssal Plain with the Scott Plateau	North-west
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	North-west
Cape Mentelle upwelling	South-west
Commonwealth marine environment surrounding the Houtman Abrolhos Islands	South-west
Commonwealth marine environment surrounding the Recherche Archipelago	South-west

Name	Region
Commonwealth marine environment within and adjacent to Geographe Bay	South-west
Commonwealth marine environment within and adjacent to the west coast inshore lagoons	South-west
Commonwealth waters adjacent to Ningaloo Reef	North-west
Continental Slope Demersal Fish Communities	North-west
Diamantina Fracture Zone	South-west
Exmouth Plateau	North-west
Glomar Shoals	North-west
Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	North-west
Naturaliste Plateau	South-west
Perth Canyon and adjacent shelf break, and other west coast canyons	South-west
Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	North-west
Wallaby Saddle	North-west
Western demersal slope and associated fish communities	South-west
Western rock lobster	South-west

Biologically Important Areas	[Resource Information]	
Scientific Name	Behaviour	Presence
Dugong		
Dugong dugon		
Dugong [28]	Breeding	Known to occur
Dugong dugon		
Dugong [28]	Calving	Known to occur
Dugong dugon		
Dugong [28]	Foraging	Known to occur
Dugong dugon		
Dugong [28]	Foraging	Likely to occur
Dugong dugon		
Dugong [28]	Foraging (high density	Known to occur

Scientific Name	Behaviour	Presence
	seagrass beds)	
Dugong dugon Dugong [28]	Migration likely	Known to occur
Dugong dugon Dugong [28]	Nursing	Known to occur
Marine Turtles		
Caretta caretta Loggerhead Turtle [1763]	Foraging	Known to occur
Caretta caretta Loggerhead Turtle [1763]	Interneesting	Known to occur
Caretta caretta Loggerhead Turtle [1763]	Interneesting buffer	Known to occur
Caretta caretta Loggerhead Turtle [1763]	Nesting	Known to occur
Chelonia mydas Green Turtle [1765]	Aggregation	Known to occur
Chelonia mydas Green Turtle [1765]	Basking	Known to occur
Chelonia mydas Green Turtle [1765]	Foraging	Known to occur
Chelonia mydas Green Turtle [1765]	Foraging	Likely to occur
Chelonia mydas Green Turtle [1765]	Interneesting	Likely to occur
Chelonia mydas Green Turtle [1765]	Interneesting	Known to occur
Chelonia mydas Green Turtle [1765]	Interneesting buffer	Likely to occur
Chelonia mydas Green Turtle [1765]	Interneesting buffer	Known to occur

Scientific Name	Behaviour	Presence
Chelonia mydas Green Turtle [1765]	Mating	Known to occur
Chelonia mydas Green Turtle [1765]	Mating	Likely to occur
Chelonia mydas Green Turtle [1765]	Migration corridor	Known to occur
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur
Chelonia mydas Green Turtle [1765]	Nesting	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Foraging	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Foraging	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Mating	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Migration corridor	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Likely to occur
Natator depressus Flatback Turtle [59257]	Aggregation	Known to occur

Scientific Name	Behaviour	Presence
Natator depressus Flatback Turtle [59257]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur
Natator depressus Flatback Turtle [59257]	Mating	Known to occur
Natator depressus Flatback Turtle [59257]	Migration corridor	Known to occur
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
River shark		
Pristis clavata Dwarf Sawfish [68447]	Foraging	Known to occur
Pristis clavata Dwarf Sawfish [68447]	Nursing	Known to occur
Pristis clavata Dwarf Sawfish [68447]	Pupping	Known to occur
Pristis pristis Largetooth Sawfish [60756]	Foraging	Known to occur
Pristis pristis Largetooth Sawfish [60756]	Pupping	Likely to occur
Pristis zijsron Green Sawfish [68442]	Foraging	Known to occur
Pristis zijsron Green Sawfish [68442]	Nursing	Known to occur
Pristis zijsron Green Sawfish [68442]	Pupping	Known to occur
Seabirds		

Scientific Name	Behaviour	Presence
Anous stolidus Common Noddy [825]	Foraging	Known to occur
Anous stolidus Common Noddy [825]	Foraging (provisioning young)	Known to occur
Anous tenuirorstris melanops Australian Lesser Noddy [26000]	Foraging (provisioning young)	Known to occur
Ardena carneipes Flesh-footed Shearwater [82404]	Aggregation	Known to occur
Ardena carneipes Flesh-footed Shearwater [82404]	Foraging (in high numbers)	Known to occur
Ardena pacifica Wedge-tailed Shearwater [84292]	Breeding	Known to occur
Ardena pacifica Wedge-tailed Shearwater [84292]	Foraging (in high numbers)	Known to occur
Ardena tenuirostris Short-tailed Shearwater [82652]	Foraging (in high numbers)	Known to occur
Eudyptula minor Little Penguin [1085]	Foraging (provisioning young)	Known to occur
Fregata ariel Lesser Frigatebird [1012]	Breeding	Known to occur
Fregata minor Greater Frigatebird [1013]	Breeding	Known to occur
Hydroprogne caspia Caspian Tern [808]	Foraging (provisioning young)	Known to occur
Larus pacificus Pacific Gull [811]	Foraging (in high	Known to occur

Scientific Name	Behaviour numbers)	Presence
Larus pacificus Pacific Gull [811]	Foraging (in high numbers)	Former Range
Onychoprion anaethetus Bridled Tern [82845]	Foraging (in high numbers)	Known to occur
Onychoprion fuscata Sooty Tern [82847]	Foraging	Known to occur
Pelagodroma marina White-faced Storm-petrel [1016]	Foraging (in high numbers)	Known to occur
Phaethon lepturus White-tailed Tropicbird [1014]	Breeding	Known to occur
Phalacrocorax fuscescens Black-faced Cormorant [59660]	Foraging	Known to occur
Pterodroma macroptera macroptera Great-winged Petrel (macroptera race) [1035]	Foraging (provisioning young)	Known to occur
Pterodroma mollis Soft-plumaged Petrel [1036]	Foraging (in high numbers)	Known to occur
Puffinus assimilis tunneyi Little Shearwater [59363]	Foraging (in high numbers)	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Foraging	Known to occur
Sterna dougallii Roseate Tern [817]	Foraging (provisioning young)	Known to occur

Scientific Name	Behaviour	Presence
Sterna dougallii Roseate Tern [817]	Resting	Known to occur
Sternula albifrons sinensis Little Tern [82850]	Breeding	Known to occur
Sternula albifrons sinensis Little Tern [82850]	Resting	Known to occur
Sternula nereis Fairy Tern [82949]	Breeding	Known to occur
Sternula nereis Fairy Tern [82949]	Foraging (in high numbers)	Known to occur
Sula leucogaster Brown Booby [1022]	Breeding	Known to occur
Sula sula Red-footed Booby [1023]	Breeding	Known to occur
Thalassarche chlororhynchos bassi Indian Yellow-nosed Albatross [85249]	Foraging (in high numbers)	Known to occur
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	Known to occur
Seals		
Neophoca cinerea Australian Sea Lion [22]	Foraging (male)	Likely to occur
Neophoca cinerea Australian Sea Lion [22]	Foraging (male and female)	Known to occur
Sharks		
Carcharodon carcharias White Shark [64470]	Foraging	Known to occur
Rhincodon typus Whale Shark [66680]	Foraging	Known to occur

Scientific Name	Behaviour	Presence
Rhincodon typus Whale Shark [66680]	Foraging (high density prey)	Known to occur
Whales		
Balaenoptera musculus Blue and Pygmy Blue Whale [36]	Foraging (abundant food source)	Known to occur
Balaenoptera musculus Blue and Pygmy Blue Whale [36]	Foraging (high density)	Known to occur
Balaenoptera musculus Blue and Pygmy Blue Whale [36]	Foraging (on migration)	Known to occur
Balaenoptera musculus brevipinna Pygmy Blue Whale [81317]	Foraging	Known to occur
Balaenoptera musculus brevipinna Pygmy Blue Whale [81317]	Foraging Area (annual high use area)	Known to occur
Balaenoptera musculus brevipinna Pygmy Blue Whale [81317]	Known Foraging Area	Known to occur
Balaenoptera musculus brevipinna Pygmy Blue Whale [81317]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Calving	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration (north)	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration (north and south)	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration (south)	Known to occur

Scientific Name	Behaviour	Presence
Megaptera novaeangliae Humpback Whale [38]	Nursing	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Resting	Known to occur
Physeter macrocephalus Sperm Whale [59]	Foraging (abundant food source)	Known to occur

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

[© Commonwealth of Australia](#)

Department of Climate Change, Energy, the Environment and Water

GPO Box 3090

Canberra ACT 2601 Australia

+61 2 6274 1111

APPENDIX D: CULTURAL HERITAGE SEARCH RESULTS

Search Criteria

436 Aboriginal Cultural Heritage (ACH) Register in Shapefile - PyreneesConsultationEMBA. Warning: Search area complex so results may be inaccurate. Contact DPLH for assistance.

Disclaimer

Aboriginal heritage holds significant value to Aboriginal people for their social, spiritual, historical, scientific, or aesthetic importance within Aboriginal traditions, and provides an essential link for Aboriginal people to their past, present and future. In Western Australia Aboriginal heritage is protected under the *Aboriginal Heritage Act 1972*.

All Aboriginal cultural heritage in Western Australia is protected, whether or not the ACH has been reported or exists on the Register.

The information provided is made available in good faith and is predominately based on the information provided to the Department of Planning, Lands and Heritage by third parties. The information is provided solely on the basis that readers will be responsible for making their own assessment as to the accuracy of the information. If you find any errors or omissions in our records, including our maps, it would be appreciated if you provide the details to the Department via <https://achknowledge.dplh.wa.gov.au/ach-enquiry-form> and we will make every effort to rectify it as soon as possible.

South West Settlement ILUA Disclaimer

Your heritage enquiry is on land **within or adjacent to** the following Indigenous Land Use Agreement(s): Wagyl Kaip & Southern Noongar Indigenous Land Use Agreement, Gnaala Karla Booja Indigenous Land Use Agreement, South West Boojarah #2 Indigenous Land Use Agreement, Yued Indigenous Land Use Agreement, Whadjuk People Indigenous Land Use Agreement.

On 8 June 2015, six identical Indigenous Land Use Agreements (ILUAs) were executed across the South West by the Western Australian Government and, respectively, the Yued, Whadjuk People, Gnaala Karla Booja, Ballardong People, South West Boojarah #2 and Wagyl Kaip & Southern Noongar groups, and the South West Aboriginal Land and Sea Council (SWALSC).

The ILUAs bind the parties (including 'the State', which encompasses all State Government Departments and certain State Government agencies) to enter into a Noongar Standard Heritage Agreement (NSHA) when conducting Aboriginal Heritage Surveys in the ILUA areas, unless they have an existing heritage agreement. It is also intended that other State agencies and instrumentalities enter into the NSHA when conducting Aboriginal Heritage Surveys in the ILUA areas. It is recommended a NSHA is entered into, and an 'Activity Notice' issued under the NSHA, if there is a risk that an activity will 'impact' (i.e. by excavating, damaging, destroying or altering in any way) an Aboriginal heritage site. The Aboriginal Heritage Due Diligence Guidelines, which are referenced by the NSHA, provide guidance on how to assess the potential risk to Aboriginal heritage.

Likewise, from 8 June 2015 the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) in granting Mineral, Petroleum and related Access Authority tenures within the South West Settlement ILUA areas, will place a condition on these tenures requiring a heritage agreement or a NSHA before any rights can be exercised.

If you are a State Government Department, Agency or Instrumentality, or have a heritage condition placed on your mineral or petroleum title by DEMIRS, you should seek advice as to the requirement to use the NSHA for your proposed activity. The full ILUA documents, maps of the ILUA areas and the NSHA template can be found at <https://www.wa.gov.au/organisation/departments/premier-and-cabinet/south-west-native-title-settlement>.

Further advice can also be sought from the Department of Planning, Lands and Heritage via <https://achknowledge.dplh.wa.gov.au/ach-enquiry-form>.

Copyright

Copyright in the information contained herein is and shall remain the property of the State of Western Australia. All rights reserved. This includes, but is not limited to, information from the Register established and maintained under the *Aboriginal Heritage Act 1972*.

Location information data licensed from Western Australian Land Information Authority (WALIA) trading as Landgate. Copyright in the location information data remains with WALIA. WALIA does not warrant the accuracy or completeness of the location information data or its suitability for any particular purpose.

List of Aboriginal Cultural Heritage (ACH) Register

Terminology

ID: ACH on the Register is assigned a unique ID by the Department of Planning, Lands and Heritage using the format: ACH-00000001. For ACH on the former Register the ID numbers remain unchanged and use the new format. For example the ACH ID of the place Swan River was previously '3536' and is now 'ACH-00003536'.

Access and Restrictions:

- **Boundary Reliable (Yes/No):** Indicates whether to the best knowledge of the Department, the location and extent of the ACH boundary is considered reliable.
- **Boundary Restricted = No:** Represents the actual location of the ACH as understood by the Department..
- **Boundary Restricted = Yes:** To preserve confidentiality the exact location and extent of the place is not displayed on the map. However, the shaded region (generally with an area of at least 4km²) provides a general indication of where the ACH is located. If you are a landowner and wish to find out more about the exact location of the place, please contact the Department of Planning, Lands and Heritage.
- **Culturally Sensitive = No:** Availability of information that the Department of Planning, Lands and Heritage holds in relation to the ACH is not restricted in any way.
- **Culturally Sensitive = Yes:** Some of the information that the Department of Planning, Lands and Heritage holds in relation to the ACH is restricted if it is considered culturally sensitive information. This information will only be made available if the Department of Planning, Lands and Heritage receives written approval from the people who provided the information. To request access please contact via <https://achknowledge.dplh.wa.gov.au/ach-enquiry-form>.
- **Culturally Sensitive Nature:**
 - **No Gender / Initiation Restrictions:** *Anyone* can view the information.
 - **Men only:** Only *males* can view restricted information.
 - **Women only:** Only *females* can view restricted information.

Status:

- **Register:** Aboriginal cultural heritage places that are assessed as meeting Section 5 of the *Aboriginal Heritage Act 1972*.
- **Lodged:** Information which has been received in relation to an Aboriginal cultural heritage place, but is yet to be assessed under Section 5 of the *Aboriginal Heritage Act 1972*.
- **Historic:** Aboriginal heritage places assessed as not meeting the criteria of Section 5 of the *Aboriginal Heritage Act 1972*. Includes places that no longer exist as a result of land use activities with existing approvals.

Place Type: The type of Aboriginal cultural heritage place. For example an artefact scatter place or engravings place.

Legacy ID: This is the former unique number that the former Department of Aboriginal Sites assigned to the place.

Coordinates

Map coordinates are based on the GDA 94 Datum.

Basemap Copyright

Map was created using ArcGIS software by Esri. ArcGIS and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved. For more information about Esri software, please visit www.esri.com.

Satellite, Hybrid, Road basemap sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, HERE, DeLorme, Intermap, INCREMENT P, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community.

Topographic basemap sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
508	POINT MURAT 03	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07503
509	POINT MURAT 04	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P07504
563	POINT MURAT 01	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07501
564	POINT MURAT 02	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07502
600	UPPER BULBARLI WELL 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial; Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07442
628	CAMP THIRTEEN BURIAL	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P07434
678	NYARTAWKA NYUKA	No	Yes	No	No Gender / Initiation Restrictions	Register	Ritual / Ceremonial	*Registered Knowledge Holder names available from DPLH	P07391
731	FOUR MILE ENGRAVINGS	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Midden	*Registered Knowledge Holder names available from DPLH	P07389
753	PORT HEDLAND HOTEL	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	P07357
811	URALA 94 B	No	No	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	P07322
873	MONTEBELLO IS: NOALA CAVE.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Rock Shelter	*Registered Knowledge Holder names available from DPLH	P07287
908	FORTESCUE MOUTH TRACK 3	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Grinding areas / Grooves; Midden; Quarry	*Registered Knowledge Holder names available from DPLH	P07268
909	FORTESCUE COAST - DUNES	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	P07269
910	FORTESCUE MOUTH	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07270
911	40 MILE - EASTERN POINT	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07271
912	40 MILE - EASTERN DUNES	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Grinding areas / Grooves; Midden	*Registered Knowledge Holder names available from DPLH	P07272
919	ENDERBY IS.27: GOODWYN VIEW	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07279

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
926	MONTEBELLO IS: HAYNES CAVE.	No	Yes	No	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Midden; Rock Shelter	*Registered Knowledge Holder names available from DPLH	P07286
927	ENDERBY IS.16: WHITE BASIN	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07233
929	ENDERBY IS.18: MANGROVE CK	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	P07235
930	ENDERBY IS.19: MANGROVE CK	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P07236
931	ENDERBY IS.20: MANGROVE CK	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07237
932	ENDERBY IS.21: BACK QUARRY	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	P07238
933	ENDERBY IS.22: TEREBRALIA	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07239
934	ENDERBY IS.23: GRINDING	No	No	No	No Gender / Initiation Restrictions	Register	Engraving; Grinding areas / Grooves	*Registered Knowledge Holder names available from DPLH	P07240
936	ENDERBY IS.25: DINGHY MIDDEN	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07242
937	ENDERBY IS.26: NORTH POINT	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Quarry	*Registered Knowledge Holder names available from DPLH	P07243
966	ROSEMARY IS.11: CHOOKIE BAY	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07219
967	ROSEMARY IS.12: CHOOKIE BAY	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	P07220
968	ROSEMARY IS.13	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Grinding areas / Grooves; Midden	*Registered Knowledge Holder names available from DPLH	P07221
969	ROSEMARY IS.14	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Grinding areas / Grooves; Midden	*Registered Knowledge Holder names available from DPLH	P07222
970	ROSEMARY IS.15: AIRSTRIP	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Grinding areas / Grooves; Midden	*Registered Knowledge Holder names available from DPLH	P07223
971	ROSEMARY IS.16: AIRSTRIP	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Quarry	*Registered Knowledge Holder names available from DPLH	P07224
972	ROSEMARY IS.17: AIRSTRIP	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	P07225

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
973	ROSEMARY IS.18: DEEP WATER	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07226
974	ROSEMARY IS.19: CHITON	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07227
975	ROSEMARY IS.20: HALFWAY CK	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07228
977	ROSEMARY IS.22	No	No	No	No Gender / Initiation Restrictions	Register	Engraving; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P07230
978	ROSEMARY IS.23: WADJURU R/H	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Traditional Structure; Midden; Water Source	*Registered Knowledge Holder names available from DPLH	P07231
979	ROSEMARY IS.24: HUNGERFORD	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07232
1062	LEGENDRE 11	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P07204
1103	LEGENDRE HILL	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07193
1104	LEGENDRE 01.	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell; Water Source	*Registered Knowledge Holder names available from DPLH	P07194
1105	LEGENDRE 02	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07195
1106	LEGENDRE 03.	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	P07196
1109	LEGENDRE 06.	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	P07199
1110	LEGENDRE 07.	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	P07200
1112	LEGENDRE 09.	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	P07202
1113	LEGENDRE 10.	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Rock Shelter; Shell	*Registered Knowledge Holder names available from DPLH	P07203
1636	WALITCH BENWENERUP	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	W01540
1712	FANNY COVE	No	No	No	No Gender / Initiation Restrictions	Register	Camp; Historical	*Registered Knowledge Holder names available from DPLH	W01455

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
3418	ROTTNEST: PEACOCK HILL	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	S02700
3440	ROTTNEST: CYCLEWAY	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	S02750
3467	ROTTNEST: TRANSIT CELL	No	Yes	No	No Gender / Initiation Restrictions	Register	Traditional Structure	*Registered Knowledge Holder names available from DPLH	S02698
3468	ROTTNEST: OLD HOSPITAL	No	Yes	No	No Gender / Initiation Restrictions	Register	Historical	*Registered Knowledge Holder names available from DPLH	S02699
3540	ROTTNEST: LODGE/QUAD.	No	Yes	No	No Gender / Initiation Restrictions	Register	Ritual / Ceremonial; Historical; Repository / Storage Place	*Registered Knowledge Holder names available from DPLH	S02555
3734	STEPHENSON AVENUE.	No	Yes	No	No Gender / Initiation Restrictions	Register	Camp; Plant Resource	*Registered Knowledge Holder names available from DPLH	S02181
3780	ROTTNEST: LONGREACH BAY	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	S02116
3781	Wadjemup Aboriginal Prisoners Cemetery (ROTTNEST)	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	S02118
3782	ROTTNEST: GOLF COURSE	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	S02119
3784	ROTTNEST: STABLES	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	S02121
4667	GREENOUGH RIVER	No	No	No	No Gender / Initiation Restrictions	Register	Burial; Midden	*Registered Knowledge Holder names available from DPLH	S02275
5560	NORTHAMPTON	Yes	No	Yes	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	S00005
5946	WEST INTERCOURSE ISLAND 11	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P07153
5999	WEST INTERCOURSE ISLAND 09.	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Water Source	*Registered Knowledge Holder names available from DPLH	P07151
6000	WEST INTERCOURSE ISLAND 10	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07152
6021	PORT HEDLAND TOWNSITE	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P07119
6022	BEAGLE BEACH 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07120

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
6023	WRECK POINT, DEPUCH ISLAND	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Traditional Structure; Midden	*Registered Knowledge Holder names available from DPLH	P07121
6044	DEPUCH IS: NARROW GORGE.	No	No	No	No Gender / Initiation Restrictions	Register	Engraving; Grinding areas / Grooves; Shell; Water Source	*Registered Knowledge Holder names available from DPLH	P07091
6060	CAPE CUVIER	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07053
6078	ROSEMARY ISLAND 10	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P07019
6079	ENDERBY ISLAND 12	No	Yes	No	No Gender / Initiation Restrictions	Register	Traditional Structure	*Registered Knowledge Holder names available from DPLH	P07020
6080	ENDERBY ISLAND 13	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P07021
6081	ENDERBY ISLAND 14	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P07022
6082	ENDERBY ISLAND 15	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P07023
6182	EAST LEWIS ISLAND: SW.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Engraving; Midden	*Registered Knowledge Holder names available from DPLH	P06915
6184	ENDERBY ISLAND 09: SE	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Fish Trap; Midden	*Registered Knowledge Holder names available from DPLH	P06917
6185	ENDERBY ISLAND 10: N.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Engraving; Midden; Quarry	*Registered Knowledge Holder names available from DPLH	P06918
6186	ENDERBY ISLAND 11: NE.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Ritual / Ceremonial; Engraving; Grinding areas / Grooves; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P06919
6227	MALUS ISLAND.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Engraving; Grinding areas / Grooves; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P06908
6228	WEST LEWIS ISLAND: SW.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Grinding areas / Grooves; Midden; Other; Quarry; Water Source	*Registered Knowledge Holder names available from DPLH	P06909
6229	WEST LEWIS ISLAND: NW ARM 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Ritual / Ceremonial; Engraving; Grinding areas / Grooves; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P06910

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
6230	WEST LEWIS ISLAND: NW ARM 2	Yes	Yes	Yes	Men only	Register	Artefacts / Scatter; Ritual / Ceremonial; Engraving; Grinding areas / Grooves; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P06911
6231	WEST LEWIS ISLAND: NE	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Fish Trap; Grinding areas / Grooves; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P06912
6232	WEST LEWIS ISLAND: N	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P06913
6233	EAST LEWIS ISLAND: S.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Engraving; Midden	*Registered Knowledge Holder names available from DPLH	P06914
6297	LIMESTONE QUARRY 2	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06666
6311	POINT MURAT.	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial; Artefacts / Scatter; Camp; Midden; Other	*Registered Knowledge Holder names available from DPLH	P06628
6325	COWERIE WELL	Yes	No	Yes	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P06642
6334	MUNDA STATION BURIAL 1	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P06651
6335	MUNDA STATION BURIAL 2	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P06652
6376	MUD FLATS 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	P06587
6498	DIRK HARTOG ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Traditional Structure	*Registered Knowledge Holder names available from DPLH	P06448
6541	URALA STATION WEST	Yes	No	Yes	No Gender / Initiation Restrictions	Register	Ritual / Ceremonial	*Registered Knowledge Holder names available from DPLH	P06438
6567	TABBA TABBA MOUTH 2	No	No	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	P06412
6574	BEADON CREEK MIDDEN.	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Midden; Other	*Registered Knowledge Holder names available from DPLH	P06369
6575	JINTA 1 MIDDEN	Yes	No	Yes	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06370
6596	POINT ANDERSON.	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Hunting Place; Midden; Shell; Water Source	*Registered Knowledge Holder names available from DPLH	P06341
6616	CORAL BAY ACCESS 2	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06361

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
6617	BURUBARLADJI	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	P06362
6618	DEW TALU.	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Ritual / Ceremonial; Water Source	*Registered Knowledge Holder names available from DPLH	P06363
6619	JINTA 1.	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Water Source	*Registered Knowledge Holder names available from DPLH	P06364
6620	JINTA 2.	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Water Source	*Registered Knowledge Holder names available from DPLH	P06365
6723	MULANDA 2	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06257
6724	MULANDA 3	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06258
6725	MULANDA 4	No	No	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	P06259
6754	OSPREY BAY 6	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06165
6755	OSPREY BAY INTERDUNAL 1	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06166
6756	OSPREY BAY INTERDUNAL 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	P06167
6757	BLOODWOOD CREEK MIDDEN 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06168
6758	BLOODWOOD CREEK MIDDEN 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06169
6759	BLOODWOOD CREEK MIDDEN 3	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06170
6760	BLOODWOOD CREEK SHORELINE	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06171
6761	LOW POINT MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06172
6762	MILYERING MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06173
6763	YARDIE ROCKSHELTERS NORTH.	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Rock Shelter	*Registered Knowledge Holder names available from DPLH	P06174

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
6764	CAMP 17 SOUTH MIDDENS	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06175
6765	CAMP 17 NORTH MIDDENS	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06176
6769	MULANDA 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06180
6782	28 MILE CREEK NORTH 1	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06140
6784	MANDU MANDU CREEK SOUTH	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06142
6785	MANDU MANDU CREEK NORTH	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06143
6790	YARDIE CREEK SOUTH 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06148
6791	YARDIE CREEK SOUTH 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06149
6797	YARDIE WELL ROCKSHELTER.	No	Yes	No	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Midden; Other; Rock Shelter	*Registered Knowledge Holder names available from DPLH	P06155
6798	YARDIE INTERDUNAL SWALE	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06156
6799	YARDIE BEACH MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06157
6800	OYSTER STACKS MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06158
6801	NORTH T-BONE BAY	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06159
6802	OSPREY BAY 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06160
6803	OSPREY BAY 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06161
6804	OSPREY BAY 3	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06162
6805	OSPREY BAY 4	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06163

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
6806	OSPREY BAY 5	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06164
6827	CORAL BAY SKELETON	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P06132
6833	WEST MOORE ISLAND	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06138
6966	ENDERBY ISLAND 08	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P05955
7059	FOUR MILE CREEK MIDDEN	No	No	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	P05890
7084	HARDING HILL MIDDEN.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Midden; Water Source	*Registered Knowledge Holder names available from DPLH	P05858
7123	BERNIER ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P05789
7124	DORRE ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P05790
7126	MESA CAMP	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05792
7127	EAST INTERCOURSE ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P05793
7133	ANGEL ISLAND BEACON	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P05799
7186	BULA-GUDA	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	P05743
7203	BAUBOODJOO POINT (Bruboodjoo Midden Site)	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Hunting Place; Midden	*Registered Knowledge Holder names available from DPLH	P05707
7205	TWIN HILL FISHING PLACE.	No	No	No	No Gender / Initiation Restrictions	Register	Hunting Place	*Registered Knowledge Holder names available from DPLH	P05709
7206	WEALJUGOO MIDDEN.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Hunting Place; Midden	*Registered Knowledge Holder names available from DPLH	P05710
7209	BULBARLI POINT COMPLEX.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Midden; Water Source	*Registered Knowledge Holder names available from DPLH	P05713
7211	MAUD LANDING.	No	No	No	No Gender / Initiation Restrictions	Register	Burial; Camp; Meeting Place; Water Source	*Registered Knowledge Holder names available from DPLH	P05715

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
7254	SANDY BAY NORTH	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05652
7265	LAKE SIDE VIEW	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05664
7286	KAPOK WELL BURIAL	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P05632
7298	YARDIE CREEK ROCKSHELTERS	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P05644
7299	YARDIE CREEK	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05645
7300	MANDU MANDU CK ROCKSHELTERS	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P05646
7301	CAMP 17 CREEK EAST	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05647
7303	TULKI WELL MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05649
7304	PILGRAMUNNA BAY MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05650
7305	MANGROVE BAY.	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial; Artefacts / Scatter; Hunting Place; Midden	*Registered Knowledge Holder names available from DPLH	P05651
7332	URALA STATION 12	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05574
7334	URALA STATION 14	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05576
7381	URALA STATION 09	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial; Artefacts / Scatter; Camp; Midden	*Registered Knowledge Holder names available from DPLH	P05569
7382	ROCKY POINT MIDDEN COMPLEX	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05570
7383	ROCKY POINT EAST	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05571
7385	URALA STATION 11	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05573
7786	BAALYINNYE.	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Water Source	*Registered Knowledge Holder names available from DPLH	P05055

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
7866	EAST LEWIS MIDDEN 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Quarry	*Registered Knowledge Holder names available from DPLH	P04966
7899	MALUS ISLAND	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P04947
7906	DELAMBRE ISLAND SOUTH.	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Water Source	*Registered Knowledge Holder names available from DPLH	P04954
7907	ROE POINT, EAST LEWIS	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P04955
7910	CONZINC ISLAND 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P04958
7911	CONZINC ISLAND 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	P04959
7914	EAST LEWIS MIDDEN 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P04962
8299	BEADON CREEK	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial; Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P04351
8300	CORAL BAY	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P04352
8301	NINGALOO STATION	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P04353
8302	WARROORA	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P04354
8920	ONSLOW 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P03563
8927	TEN MILE WELL BURIAL	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P03570
9061	COBBLE BEACH 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving	*Registered Knowledge Holder names available from DPLH	P03350
9070	SPOTTED SLUGS	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Engraving; Other	*Registered Knowledge Holder names available from DPLH	P03441
9071	DANCING DOGS	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Engraving; Other	*Registered Knowledge Holder names available from DPLH	P03442
9072	SMASHED ROO	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Engraving; Other	*Registered Knowledge Holder names available from DPLH	P03443

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
9246	STEEP KNOLL	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Engraving; Traditional Structure; Other	*Registered Knowledge Holder names available from DPLH	P03081
9735	GIDLEY PASSAGE	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P02447
9736	PASTORAL SETTLEMENT	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P02448
9737	ENDERBY ISLAND 06: BOILER B	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Quarry	*Registered Knowledge Holder names available from DPLH	P02449
9811	DRD AREA A-05	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative; Engraving; Other	*Registered Knowledge Holder names available from DPLH	P02355
9890	SURVEY PEG SITE	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P02326
10231	NUNGINGAY SPRING	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	P01982
10381	VLAMING HEAD	Yes	No	Yes	No Gender / Initiation Restrictions	Register	Ritual / Ceremonial; Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	P01799
10615	HEARSON COVE NORTH 2	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P01559
11328	GAP WELL	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00836
11401	5 Mile Well (Cape Range)	No	No	No	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Engraving; Painting; Quarry	*Registered Knowledge Holder names available from DPLH	P00751
11402	URALA DUNE BURIAL	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Burial; Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P00752
11448	23 MILE CREEK	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving	*Registered Knowledge Holder names available from DPLH	P00744
11449	PARDOO 2.	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Burial; Artefacts / Scatter; Camp; Midden; Other	*Registered Knowledge Holder names available from DPLH	P00745
11458	NINGALOO (near)	No	No	No	No Gender / Initiation Restrictions	Register	Painting	*Registered Knowledge Holder names available from DPLH	P00701
11460	WARROORA STATION	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P00703
11586	UDA DALU, BOODARIE STN	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	P00557

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
11624	HUNTERS POOL	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00541
11625	DEPUCH ISLAND	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Other	*Registered Knowledge Holder names available from DPLH	P00542
11626	WATERING VALLEY	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P00543
11627	JANE CREEK	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00544
11628	ANCHOR HILL, DEPUCH ISLAND	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00545
11629	QUARTZ HILL	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P00546
11636	PORT HEDLAND SOUTH-WEST	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00553
11645	DOLPHIN LOCATION 8 NO. 3	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00509
11646	DOLPHIN LOCATION 8 NO. 1	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00510
11647	DOLPHIN LOCATION 8 NO. 2	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00511
11648	DOLPHIN ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00512
11649	DEBBY'S DUNE (DIXON ISLAND 4)	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P00513
11650	GAYLEEN BAY (DIXON IS. 6).	No	No	No	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P00514
11653	BOBBY'S FLAT E(DIXON IS.2)	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P00517
11654	BOBBY'S FLAT (DIXON IS. 3)	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P00518
11656	SUSAN BAY (DIXON ISLAND 7)	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P00520
11667	ENZOS LANDING	No	No	No	No Gender / Initiation Restrictions	Register	Engraving; Midden	*Registered Knowledge Holder names available from DPLH	P00479

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
11668	DOLPHIN LOCATION 3 NO. 3	No	No	No	No Gender / Initiation Restrictions	Register	Engraving; Water Source	*Registered Knowledge Holder names available from DPLH	P00480
11669	DOLPHIN LOCATION 3 NO. 4	No	No	No	No Gender / Initiation Restrictions	Register	Engraving; Water Source	*Registered Knowledge Holder names available from DPLH	P00481
11670	DOLPHIN LOCATION 3 NO. 6	No	No	No	No Gender / Initiation Restrictions	Register	Engraving; Grinding areas / Grooves	*Registered Knowledge Holder names available from DPLH	P00482
11671	DOLPHIN LOCATION 4 NO. 1	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00483
11672	DOLPHIN LOCATION 4 NO. 2	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00484
11673	DOLPHIN LOCATION 4 NO. 3	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00485
11674	DOLPHIN LOCATION 5 NO. 5	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00486
11675	DOLPHIN LOCATION 5 NO. 4	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00487
11683	DOLPHIN LOCATION 5 NO. 1	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00495
11684	DOLPHIN LOCATION 5 NO. 2	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00496
11685	DOLPHIN LOCATION 5 NO. 3	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00497
11686	TOZER ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Fish Trap	*Registered Knowledge Holder names available from DPLH	P00498
11698	ANGELA COVE	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving	*Registered Knowledge Holder names available from DPLH	P00457
11699	GIDLEY BAY, GIDLEY ISLAND.	No	No	No	No Gender / Initiation Restrictions	Register	Camp; Engraving	*Registered Knowledge Holder names available from DPLH	P00458
11704	THREE FISH SITE	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00464
11706	DOLPHIN ISLAND SW 1	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00466
11708	DOLPHIN LOCATION 3 NO. 1	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving	*Registered Knowledge Holder names available from DPLH	P00468

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
11709	DOLPHIN LOCATION 3 NO. 2	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00469
11710	DOLPHIN LOCATION 3 NO. 5	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00470
11711	DOLPHIN ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00471
11712	MUSEUM BAY, DOLPHIN IS	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00472
11713	LAST ENCOUNTER COVE.	No	No	No	No Gender / Initiation Restrictions	Register	Camp; Engraving	*Registered Knowledge Holder names available from DPLH	P00473
11714	GIDLEY ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00474
11715	RIM ROCK GORGE.	No	No	No	No Gender / Initiation Restrictions	Register	Camp; Engraving	*Registered Knowledge Holder names available from DPLH	P00475
11723	DOLPHIN ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00428
11729	NGARLUMA POINT, GIDLEY IS.	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P00434
11730	MORS HILL, GIDLEY ISLAND.	No	No	No	No Gender / Initiation Restrictions	Register	Burial; Artefacts / Scatter; Engraving; Shell	*Registered Knowledge Holder names available from DPLH	P00435
11744	EAST LEWIS 5	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00395
11745	EAST LEWIS 6	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00396
11746	EAST LEWIS 7	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00397
11747	EAST LEWIS 8	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00398
11748	EAST LEWIS 9	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00399
11749	EAST LEWIS 4	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00400
11750	EAST LEWIS 3	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00401

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
11752	EAST LEWIS 2	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00403
11753	EAST LEWIS 1	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00404
11759	WEST LEWIS ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00410
11767	FISH POINT, GIDLEY ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00418
11771	ENDERBY ISLAND 05	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00368
11772	ROSEMARY ISLAND 09	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P00369
11773	ROSEMARY ISLAND 08	No	No	No	No Gender / Initiation Restrictions	Register	Engraving; Grinding areas / Grooves; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P00370
11774	ROSEMARY ISLAND 07	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00371
11775	ROSEMARY ISLAND 06	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00372
11776	ROSEMARY ISLAND 04.	No	No	No	No Gender / Initiation Restrictions	Register	Camp; Engraving	*Registered Knowledge Holder names available from DPLH	P00373
11777	ROSEMARY ISLAND 03	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00374
11789	ROSEMARY ISLAND 01	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Midden; Quarry	*Registered Knowledge Holder names available from DPLH	P00386
11790	WEST INTERCOURSE ISLAND 06	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00387
11791	WEST INTERCOURSE ISLAND 07	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00388
11792	WEST INTERCOURSE ISLAND 02	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00389
11793	WEST INTERCOURSE ISLAND 03	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00390
11794	WEST INTERCOURSE ISLAND 04	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00391

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
11795	WEST INTERCOURSE ISLAND 05	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00392
11796	WEST INTERCOURSE ISLAND 01	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00393
11818	ROSEMARY ISLAND 02	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00362
11819	ROSEMARY ISLAND 05	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00363
11820	ENDERBY ISLAND 01	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00364
11821	ENDERBY ISLAND 02	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P00365
11822	ENDERBY ISLAND 03	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00366
11823	ENDERBY ISLAND 04	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Midden	*Registered Knowledge Holder names available from DPLH	P00367
11943	TWO MILE RIDGE, NELSON POINT	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Engraving; Other	*Registered Knowledge Holder names available from DPLH	P00219
12069	SOUTH WEST CREEK 1,2,3.	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Camp; Creation / Dreaming Narrative; Engraving; Midden; Water Source	*Registered Knowledge Holder names available from DPLH	P00088
12071	SOUTH WEST CREEK 4.	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Camp; Ritual / Ceremonial; Engraving; Traditional Structure; Midden; Other	*Registered Knowledge Holder names available from DPLH	P00090
12072	SOUTH WEST CREEK 5:BOODARI.	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Engraving; Hunting Place; Midden	*Registered Knowledge Holder names available from DPLH	P00091
12469	GUNJI CEREMONIAL GROUND	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Ritual / Ceremonial	*Registered Knowledge Holder names available from DPLH	K02773
12969	WARRA MURRANGA TALU	Yes	No	Yes	No Gender / Initiation Restrictions	Register	Ritual / Ceremonial; Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	K02270
13350	FRAZIER DOWNS BEACH	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	K01902
14439	BIDIR-NGA:BA	Yes	No	Yes	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative; Fish Trap	*Registered Knowledge Holder names available from DPLH	K00657
15322	POINT MURAT/WHITE OPAL	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07916

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
15726	EAST INTERCOURSE ISLAND 01	Yes	Yes	Yes	Men only	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P07942
15727	EAST INTERCOURSE ISLAND 02	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P07943
15728	EAST INTERCOURSE ISLAND 03	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Grinding areas / Grooves	*Registered Knowledge Holder names available from DPLH	P07944
15839	LAKE COOGEE 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
15840	COCKBURN ROAD	No	Yes	No	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	
15926	TUBRIDGI 01	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Shell	*Registered Knowledge Holder names available from DPLH	
15927	TUBRIDGI 02	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Shell	*Registered Knowledge Holder names available from DPLH	
15928	TUBRIDGI 04	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	
15929	TUBRIDGI 05	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	
15930	TUBRIDGI 06	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden; Shell	*Registered Knowledge Holder names available from DPLH	
16216	North West Intercourse Island Site 13	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Shell	*Registered Knowledge Holder names available from DPLH	
16217	North West Intercourse Island Site 36	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Other; Shell	*Registered Knowledge Holder names available from DPLH	
16230	South West Burrup Peninsula Site 63	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Other; Shell	*Registered Knowledge Holder names available from DPLH	
16235	North West Intercourse Island Site 4	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Shell	*Registered Knowledge Holder names available from DPLH	
16240	North West Intercourse Island Site 16	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
16247	North West Intercourse Island Site 13	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Midden; Shell	*Registered Knowledge Holder names available from DPLH	
16249	North West Intercourse Island Site 19	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
16252	North West Intercourse Island Site 8	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Other; Quarry	*Registered Knowledge Holder names available from DPLH	
16263	North West Intercourse Island Site 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
16267	North West Intercourse Island Site 10	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
16268	North West Intercourse Island Site 11	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
16269	North West Intercourse Island Site 12	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Grinding areas / Grooves	*Registered Knowledge Holder names available from DPLH	
16270	North West Intercourse Island Site 14	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
16271	North West Intercourse Island Site 15	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Grinding areas / Grooves	*Registered Knowledge Holder names available from DPLH	
16277	North West Intercourse Island Site 20	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Grinding areas / Grooves	*Registered Knowledge Holder names available from DPLH	
16281	North West Intercourse Island Site 24	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Grinding areas / Grooves	*Registered Knowledge Holder names available from DPLH	
16282	North West Intercourse Island Site 25	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Landscape / Seascape Feature	*Registered Knowledge Holder names available from DPLH	
16283	North West Intercourse Island Site 26	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Grinding areas / Grooves; Landscape / Seascape Feature	*Registered Knowledge Holder names available from DPLH	
16286	North West Intercourse Island Site 29	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
16287	North West Intercourse Island Site 30	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
16291	North West Intercourse Island Site 34	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Grinding areas / Grooves	*Registered Knowledge Holder names available from DPLH	
16295	North West Intercourse Island Site 39	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Grinding areas / Grooves	*Registered Knowledge Holder names available from DPLH	
16296	North West Intercourse Island Site 40	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
16297	North West Intercourse Island Site 41	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
16306	North West Intercourse Island Site 51	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Other; Shell	*Registered Knowledge Holder names available from DPLH	
16314	North West Intercourse Island Site 60	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Other	*Registered Knowledge Holder names available from DPLH	
16317	North West Intercourse Island Site 63	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Shell	*Registered Knowledge Holder names available from DPLH	
16320	North West Intercourse Island Site 66	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving; Landscape / Seascape Feature; Other	*Registered Knowledge Holder names available from DPLH	
16326	North West Intercourse Island Site 74	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Landscape / Seascape Feature; Other; Quarry	*Registered Knowledge Holder names available from DPLH	
16596	Coral Bay to Yardie Creek 3	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
16597	Baler Bluff	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Shell	*Registered Knowledge Holder names available from DPLH	
16792	Site A	No	No	No	No Gender / Initiation Restrictions	Register	Midden; Shell	*Registered Knowledge Holder names available from DPLH	
16793	Site B	No	No	No	No Gender / Initiation Restrictions	Register	Midden; Shell	*Registered Knowledge Holder names available from DPLH	
17193	Ningaloo Station	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	
17640	West Intercourse Island	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
18733	Burrup engravings compound	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Engraving; Repository / Storage Place	*Registered Knowledge Holder names available from DPLH	
18819	Cape Preston 16	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	
18822	Cape Preston 19	No	Yes	No	No Gender / Initiation Restrictions	Register	Quarry	*Registered Knowledge Holder names available from DPLH	
18823	Cape Preston 20	No	Yes	No	No Gender / Initiation Restrictions	Register	Quarry	*Registered Knowledge Holder names available from DPLH	
18824	Cape Preston 21	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	
18825	Cape Preston 22	No	Yes	No	No Gender / Initiation Restrictions	Register	Quarry	*Registered Knowledge Holder names available from DPLH	

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
18826	Cape Preston 23	No	Yes	No	No Gender / Initiation Restrictions	Register	Quarry	*Registered Knowledge Holder names available from DPLH	
18827	Cape Preston 24	No	Yes	No	No Gender / Initiation Restrictions	Register	Quarry	*Registered Knowledge Holder names available from DPLH	
18838	Cape Preston 35	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	
18839	Cape Preston 36	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	
18858	Cape Preston 55	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Midden	*Registered Knowledge Holder names available from DPLH	
18859	Cape Preston 56	No	Yes	No	No Gender / Initiation Restrictions	Register	Grinding areas / Grooves; Midden	*Registered Knowledge Holder names available from DPLH	
18860	Cape Preston 57	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	
18861	Cape Preston 58	No	Yes	No	No Gender / Initiation Restrictions	Register	Quarry	*Registered Knowledge Holder names available from DPLH	
18862	Cape Preston 59	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	
18865	Cape Preston 62	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	
19433	MX-09 ARTEFACT SCATTER	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
19435	MX-22 ARTEFACT SCATTER	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
19439	MX-10 ARTEFACT SCATTER	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
19440	MX-14 QUARRY AND KNAPPING FLOORS	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	
19465	Methanex Burrup Field Site 11	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
19467	Methanex Burrup Field Site 14	No	Yes	No	No Gender / Initiation Restrictions	Register	Quarry	*Registered Knowledge Holder names available from DPLH	
19475	Methanex Burrup Field Site 9	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
19476	Methanex Burrup Field Site 10	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
19702	Woodside Haul Road 05	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Engraving; Other	*Registered Knowledge Holder names available from DPLH	
20008	Gingin Brook Waggyt Site	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Camp; Creation / Dreaming Narrative; Historical; Hunting Place; Plant Resource; Water Source	*Registered Knowledge Holder names available from DPLH	
20051	Kwelena Mambakort - Wedge Island	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Camp; Ritual / Ceremonial; Grinding areas / Grooves; Historical; Hunting Place; Meeting Place; Midden; Rock Shelter; Shell; Water Source	*Registered Knowledge Holder names available from DPLH	
20178	Bold Park	No	Yes	No	No Gender / Initiation Restrictions	Register	Camp; Creation / Dreaming Narrative; Historical; Hunting Place; Other; Plant Resource	*Registered Knowledge Holder names available from DPLH	
20369	DP-287	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
20372	PP-03	Yes	Yes	Yes	Men only	Register	Engraving; Grinding areas / Grooves	*Registered Knowledge Holder names available from DPLH	
20866	Lake Coogee	No	Yes	No	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	
20896	BF / FS 03-3	Yes	Yes	Yes	Men only	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
21512	Railway 4	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	
21607	Roller/Skate Site 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden; Shell	*Registered Knowledge Holder names available from DPLH	
21609	Roller/Skate Site 4	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Shell	*Registered Knowledge Holder names available from DPLH	
22741	PHPF71	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden; Shell	*Registered Knowledge Holder names available from DPLH	
22874	Marapikurrinya Yintha Site	No	Yes	No	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	
23202	PE 5 Men's Engravings A, B & C	Yes	No	Yes	Men only	Register	Ritual / Ceremonial; Creation / Dreaming Narrative; Engraving	*Registered Knowledge Holder names available from DPLH	

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
23203	PE 6 Access Gully	Yes	No	Yes	Men only	Register	Ritual / Ceremonial; Engraving; Water Source	*Registered Knowledge Holder names available from DPLH	
23205	PE 8 Men's Only Area	Yes	No	Yes	Men only	Register	Ritual / Ceremonial; Creation / Dreaming Narrative; Engraving; Landscape / Seascape Feature; Water Source	*Registered Knowledge Holder names available from DPLH	
23383	Woodside Pluto Area B 3	Yes	Yes	Yes	Men only	Register	Traditional Structure	*Registered Knowledge Holder names available from DPLH	
24761	Greenough River	No	Yes	No	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative; Landscape / Seascape Feature	*Registered Knowledge Holder names available from DPLH	
25586	WE023 (BMIEA)	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Engraving	*Registered Knowledge Holder names available from DPLH	
25646	BD 08-28	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden; Shell	*Registered Knowledge Holder names available from DPLH	
25665	FI 08-01	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden; Shell	*Registered Knowledge Holder names available from DPLH	
25666	FI 08-02	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden; Shell	*Registered Knowledge Holder names available from DPLH	
25667	FI 08-03	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden; Shell	*Registered Knowledge Holder names available from DPLH	
25853	P08 - 01	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	
25860	ICC 08-03	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving	*Registered Knowledge Holder names available from DPLH	
25861	ICC 08-04	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving	*Registered Knowledge Holder names available from DPLH	
25862	ICC 08-05	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Traditional Structure; Quarry	*Registered Knowledge Holder names available from DPLH	
25863	ICC 08-06	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Other; Quarry	*Registered Knowledge Holder names available from DPLH	
25864	ICC 08-07	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	
25869	ICC 08-17	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
25910	AA08 - 02	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	
25911	AA08 - 03	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
25913	AA08 - 05	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	
25914	AA08 - 06	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	
25915	AA08 - 07	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
25917	AA08 - 09	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
25918	AA08 - 10	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
25919	AA08 - 11	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	
25920	AA08 - 12	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
25923	AA08 - 15	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
25924	AA08 - 16	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
25925	AA08 - 17	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	
25943	EU-IC-M 0828	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	
26005	Site No. 18	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
26006	Site No. 25	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
26017	P08 - 02	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Midden; Quarry; Shell	*Registered Knowledge Holder names available from DPLH	
26019	P08 - 08	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
26020	P08 - 09	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	
26264	Young River	No	Yes	No	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	
26441	P09 - 01	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Shell	*Registered Knowledge Holder names available from DPLH	
26444	P09 - 04	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	
26446	P09 - 06	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	
26736	ACHM - 09-05	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
27561	Sam's Creek Burial Site	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	
28615	MP08-53	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Ritual / Ceremonial; Creation / Dreaming Narrative; Water Source	*Registered Knowledge Holder names available from DPLH	
28700	MP08 - 50	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp	*Registered Knowledge Holder names available from DPLH	
28701	MP08 - 52	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Midden; Shell	*Registered Knowledge Holder names available from DPLH	
31746	Golf Course South Glass Artefact Scatter	No	Yes	No	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
31747	Golf Course Northeast Site Glass Artefact Scatter	No	Yes	No	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
32041	PIL3381	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden; Shell	*Registered Knowledge Holder names available from DPLH	
32659	Maitland River Scatter 11	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
32661	Maitland River Scatter 13	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
32662	Maitland River Scatter 14	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
32666	Maitland River Scatter 06	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	

Aboriginal Cultural Heritage Inquiry System

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>

List of Aboriginal Cultural Heritage (ACH) Register

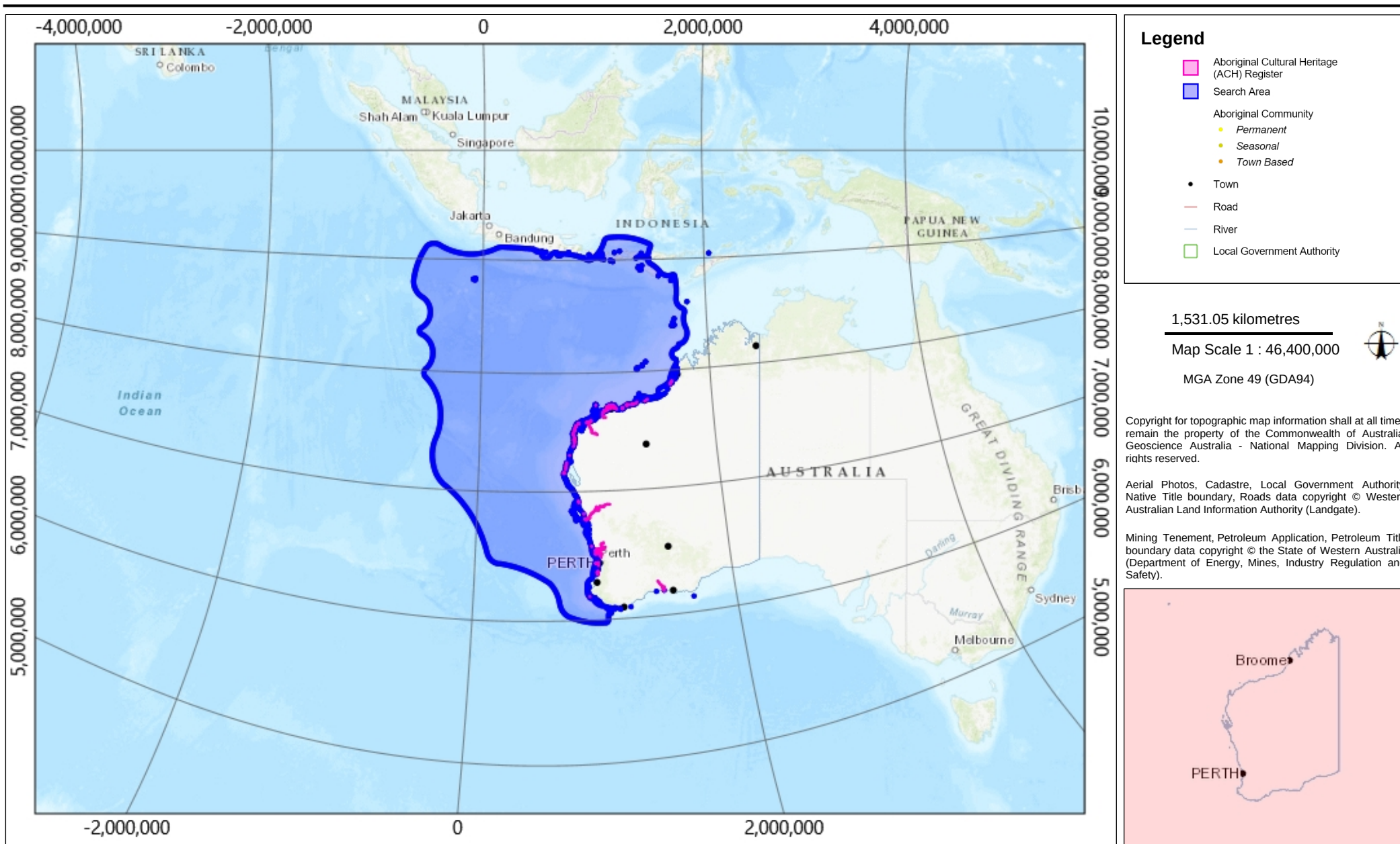
ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
32667	Maitland River Scatter 10	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
32668	Maitland River Scatter 09	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
32670	Maitland River Scatter 07	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
32696	Djilba	No	Yes	No	No Gender / Initiation Restrictions	Register	Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	
32879	Lower Fortescue River (Mardathuni)	No	No	No	No Gender / Initiation Restrictions	Register	Camp; Creation / Dreaming Narrative; Hunting Place; Landscape / Seascape Feature; Plant Resource; Water Source	*Registered Knowledge Holder names available from DPLH	
34016	IOHENG07	No	Yes	No		Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Quarry	*Registered Knowledge Holder names available from DPLH	
36755	Hearson Cove Outcrop (HCO)	No	Yes	No		Register	Engraving	*Registered Knowledge Holder names available from DPLH	
37522	Mindurru (Ashburton River)	Yes	Yes	Yes		Register	Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	
38533	Cape Bruguieres Channel	No	Yes	No		Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	
38773	Foundation Cave	Yes	Yes	Yes		Register	Burial	*Registered Knowledge Holder names available from DPLH	
39235	WAD-2021-001	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Historical	*Registered Knowledge Holder names available from DPLH	
39236	WAD-2021-003	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Historical	*Registered Knowledge Holder names available from DPLH	
39237	WAD-2021-002	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Historical	*Registered Knowledge Holder names available from DPLH	
39238	WAD-2021-004	No	Yes	No	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Historical	*Registered Knowledge Holder names available from DPLH	
39239	SSPAA-2017-01	No	Yes	No	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Historical	*Registered Knowledge Holder names available from DPLH	
39697	SM22-A-01	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Historical; Other; Quarry	*Registered Knowledge Holder names available from DPLH	



Aboriginal Cultural Heritage Inquiry System

Map of Aboriginal Cultural Heritage (ACH) Register

For further important information on using this information
please see the WA.gov.au website's Terms of Use at
<https://www.wa.gov.au/terms-of-use>



APPENDIX E: NOPSEMA REPORTING FORMS

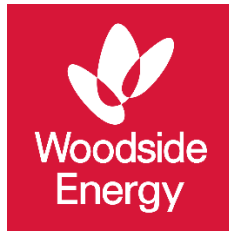
NOPSEMA Recordable Environmental Incident Monthly Reporting Form

<https://www.nopsema.gov.au/assets/Forms/A198750.doc>

Report of an accident, dangerous occurrence or environmental incident:

<https://www.nopsema.gov.au/assets/Forms/N-03000-FM0831-Report-of-an-Accident-Dangerous-Occurrence-or-Environmental-Incident-Rev-8-Jan-2015-MS-Word-2010.docx>

APPENDIX F: CONSULTATION



Pyrenees Facility Operations Environment Plan

APPENDIX F

- **Consultation Approach**
- **Table 1: Assessment of Relevance**
- **Consultation Activities**
- **Table 2: Consultation Report with Relevant Persons or Organisations**
- **Table 3: Engagement Report with Persons or Organisations Assessed as Not Relevant**
- **Record of Consultation**

Date: January 2026

Revision: 5

TABLE OF CONTENTS

CONSULTATION APPROACH	3
RELEVANCY ASSESSMENT	6
Table 1: Assessment of Relevancy	9
CONSULTATION ACTIVITIES	88
Pyrenees Facility Operations EP Consultation Activities.....	88
Traditional Custodian Specific Consultation	91
Consultation update (February/March 2025).....	93
TABLE 2: CONSULTATION REPORT WITH RELEVANT PERSONS OR ORGANISATIONS	94
TABLE 3: ENGAGEMENT REPORT WITH PERSONS OR ORGANISATIONS ASSESSED AS NOT RELEVANT	453
RECORD OF CONSULTATION	510

Consultation Approach

For the Pyrenees Facility Operations Environment Plan (EP), Woodside has taken a broad and proactive tiered consultation approach over a period of up to 28 months.

This approach was aimed at raising public awareness of the consultation opportunity and to enable self-identification. It included a social media campaign and advertising in national, state, regional and Indigenous newspapers.

The tiered consultation approach discharges regulation 25 of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations) requirements. The approach is proactive, extended, has enabled self-identification, and has raised broad awareness of Woodside's activities related to this EP.

Consultation for this EP was also combined with another operations EP.

Tiered Consultation Approach

Regulation 25	Woodside's consultation approach assessed and identified relevant persons, enabled two-way dialogue and engagement, and included email and phone call follow up. The approach taken comfortably satisfies the requirements of regulation 25: to give relevant persons sufficient information and allow a reasonable period of time for consultation (see: Section 5).
Proactive	To raise awareness of the consultation process, and to enable grass-roots consultation, Woodside undertook advertised regional consultation roadshows and facilitated consultation at regional community events.
Extended	A reasonable consultation period was provided to enable an informed assessment of possible consequences on functions, interests or activities and associated supportive communication activities.
Self-Identification	Broad communication activities were undertaken to build awareness of consultation and enable self-identification, supported by targeted education materials.
Broad Understanding	Broad proactive communication activities were undertaken with the public to raise awareness of Woodside's activities.

Building on the Existing Consultation Approach

For this EP, Woodside has built on its consultation methodology and undertaken additional consultation activities throughout the consultation period to ensure a reasonable period of time and sufficient information has been provided to relevant persons so that they can make an informed assessment of the possible consequences of the activity on their functions, interests or activities.

The approach for this included:

- a consultation period of up to 28 months
- undertaking proactive consultation activities to provide sufficient information to relevant persons
- raising awareness of the consultation process and opportunity to provide feedback
- driving participation in the consultation process.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 3 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

An overview of this approach is shown below:

CONSULTATION TIMELINE

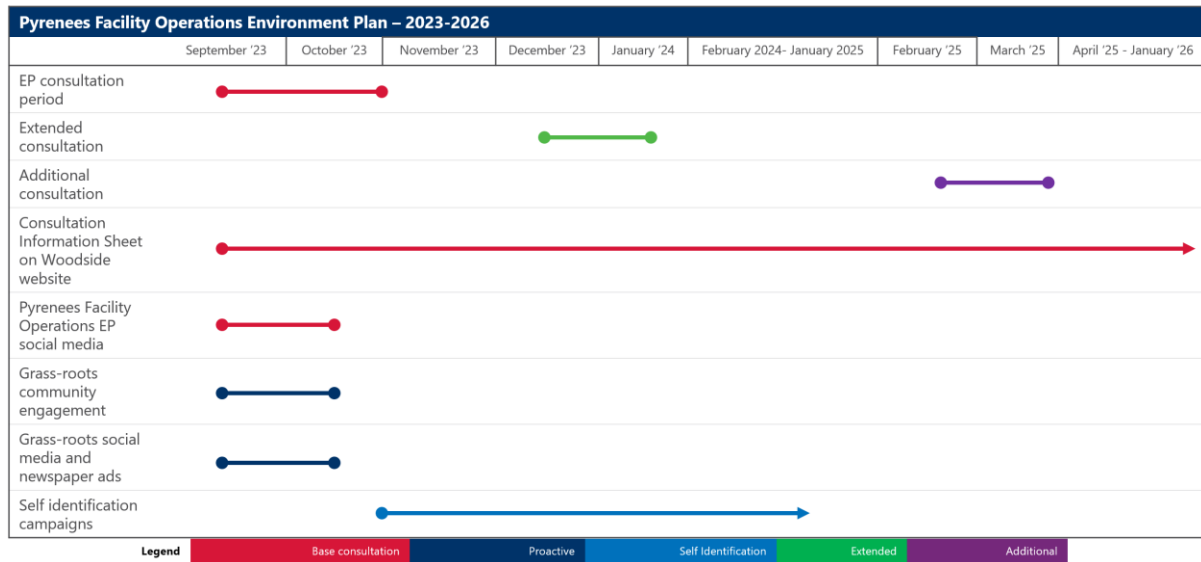


Figure 1: Pyrenees Facility Operations Consultation Activity

Traditional Custodian Consultation Approach

Woodside has meaningful long-term relationships with relevant Traditional Custodians specifically tailored to provide for effective engagement which is continuous and is not confined to individual EPs, instead covering all EPs and other issues that are relevant at the time of engagement.

To this end, consultation on any particular EP, including the Pyrenees Facility Operations EP, happens before, during and after the designated consultation period in a more holistic manner allowing for an understanding of the bigger picture and accommodating cultural requirements. Ongoing consultation remains an important part of consulting with Traditional Custodians based on availability, cultural protocols and the preferred method of consultation for each relevant person.

Since as early as February 2024, where requested, Woodside has been working with nominated representative bodies to develop Consultation Agreement Frameworks which seek input from groups to outline their preferred method of consultation.

eNGO Consultation Approach

Woodside has an established history of consulting with environmental non-government organisations (eNGOs) as part of its EP consultation. In its methodology (Section 5.3.4, Table 5-2), eNGOs are considered “Other non-government groups or organisations” and “Research institutes and local conservation groups or organisations”. Relevant person identification for these categories is based on registered non-government groups or organisations with current targeted public website material specific to the proposed activity at the time of developing the EP and who have demonstrated functions, interests or

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 4 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

activities relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation.

So that eNGOs were given sufficient information and a reasonable period of time to consult, Woodside:

- advertised the consultation period (social and traditional media)
- directly consulted eNGOs
- participated in regional community events (which were advertised) in the Pilbara and Gascoyne, which could be attended by any eNGOs including local groups (if eNGOs attended these sessions, they did not identify themselves).

eNGO Response

For this EP, Woodside identified seven eNGOs as not relevant but which Woodside nevertheless chose to contact. None of the seven eNGOs provided feedback on this EP.

Relevancy Assessment

Assessment of Relevant Persons for the Proposed Activity

The result of Woodside's assessment of relevant persons in accordance with regulation 25(1) of the Environment Regulations is outlined below at **Table 1** and **Table 2**.

Persons or organisations that Woodside assessed as not relevant but nonetheless chose to contact at its discretion in accordance with **Section 5.3.7** or self-identified and Woodside assessed as not relevant are summarised below at **Table 1** and **Table 3**.

As per Woodside's consultation methodology (set out in **Section 5**), Woodside considers both the Operational Area and the broader environment that may be affected (EMBA) as part of its identification of relevant persons. After initial consultation had been completed for this EP, Woodside undertook additional modelling which resulted in a revised EMBA (**Figure 2**). This has meant some stakeholders who were previously assessed as not relevant are now relevant persons (**Table 2**), while some persons and organisations previously assessed as relevant are now not relevant and chose to contact (**Table 3**). As a result of the revised modelling, a number of new relevant persons were identified and consulted. These relevant persons are included in **Table 1** and **Table 2**.

In addition, some persons and organisations in **Table 1** and **Table 3** were provided with consultation information on this EP as initial consultation for this EP was combined with another operations EP. While these stakeholders were not assessed as relevant for this EP, they were given the opportunity to provide feedback on both EPs.

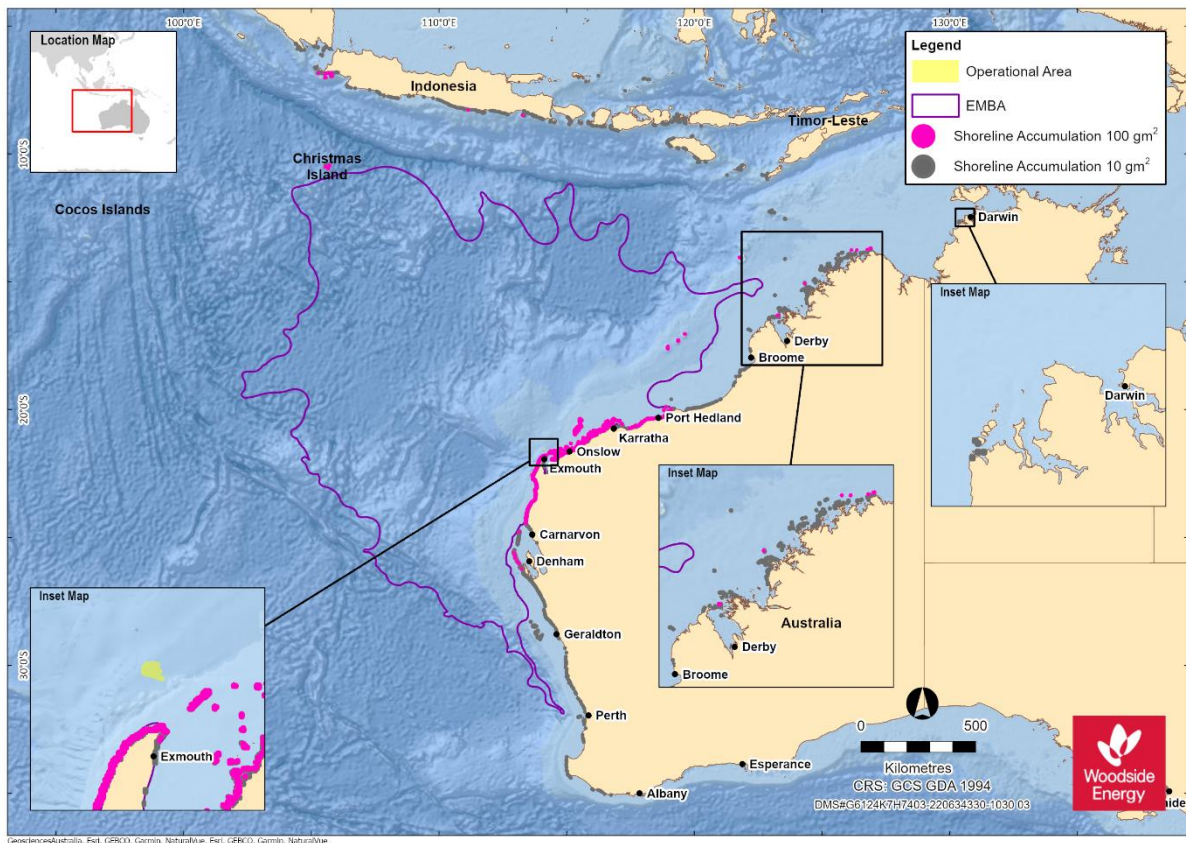


Figure 2: Pyrenees Operational Area and revised EMBA for this EP.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 7 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

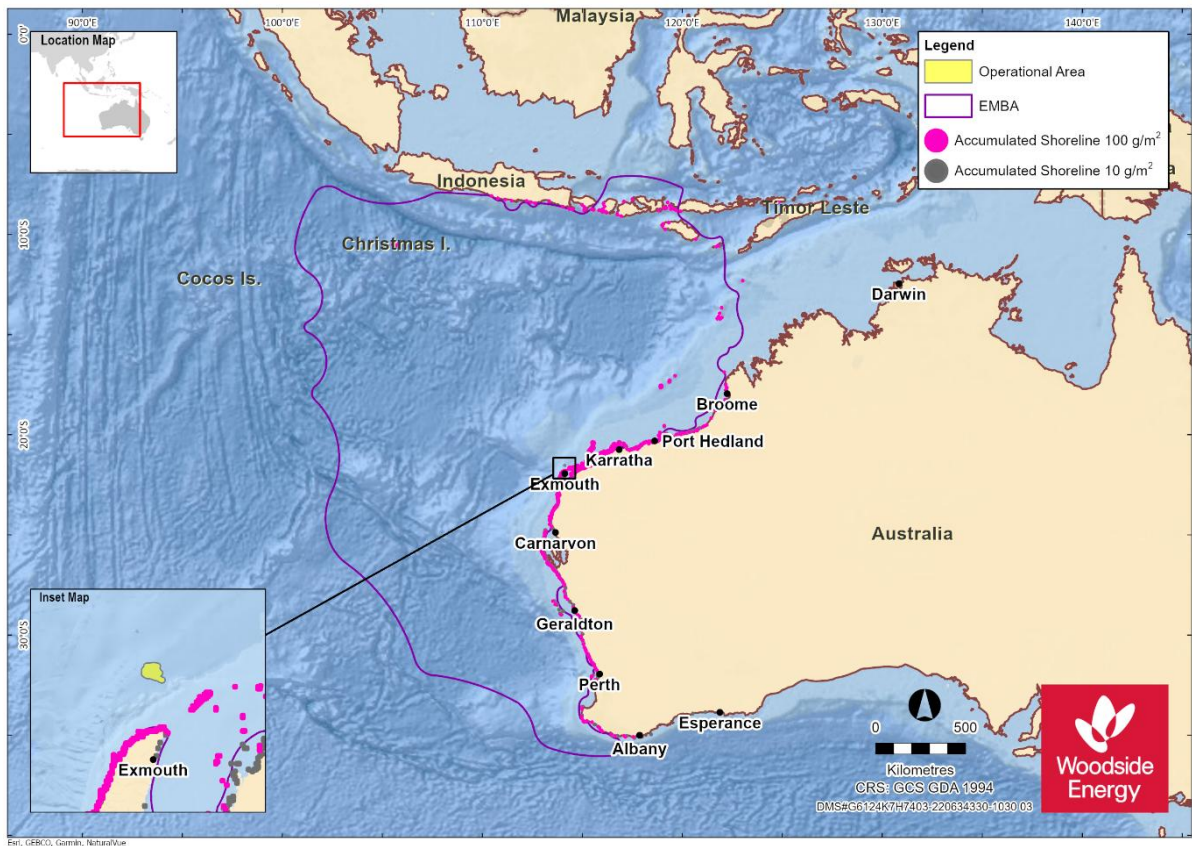


Figure 3: Pyrenees Operational Area and initial EMBA for this EP.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 8 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Table 1: Assessment of Relevancy

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Commonwealth and State Government Departments or Agencies – Marine			
Australian Border Force (ABF)	Responsible for coordinating maritime security	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. ABF's responsibilities may be relevant to the activity as there are proposed vessel activities.	Yes
Department of Foreign Affairs and Trade (DFAT)	Responsible for promoting and protecting Australia's interests internationally and contributes to global stability and economic growth. DFAT manages Australia's relationships and interaction with the governments of our neighbouring countries.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. DFAT has no direct role in the management of the Commonwealth marine area, but has an interest in ensuring that consultation with foreign entities, both private and government, is effective and is aligned with Australia's interests. DFAT manages Australia's relationships and interaction with the governments of our neighbouring countries. The proposed activity has the potential to impact DFAT's functions, interests or activities as the EMBA overlaps Indonesian waters.	Yes
Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA)	Responsible for managing fisheries within 12 nm of Christmas Island	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. The Christmas Island Line Fishery is active in the EMBA. DITRDCA's responsibilities may be relevant to the activity as the Christmas Island Line Fishery is active in the EMBA.	Yes
Australian Fisheries Management Authority (AFMA)	Responsible for managing Commonwealth fisheries	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. No Commonwealth fisheries are active in the Operational Area. The North West Slope Trawl Fishery, Western Deepwater Trawl Fishery,	Yes

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Western Tuna and Billfish Fishery, Northern Prawn Fishery and Christmas Island Line Fishery are active in the EMBA. AFMA's responsibilities may be relevant to the activity as the North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Northern Prawn Fishery and Christmas Island Line Fishery are active in the EMBA.	
Australian Hydrographic Office (AHO)	Responsible for maritime safety and Notices to Mariners	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. AHO's responsibilities may be relevant to the activity as there are proposed vessel activities.	Yes
Australian Maritime Safety Authority (AMSA) – Marine Safety	Statutory agency for vessel safety and navigation	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. AMSA – Marine Safety's responsibilities may be relevant to the activity as there are proposed vessel activities.	Yes
Australian Maritime Safety Authority (AMSA) – Marine Pollution	Legislated responsibility for oil pollution response in Commonwealth waters	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. AMSA – Marine Pollution's responsibilities may be relevant to the activity as the proposed activity has a hydrocarbon spill risk which may require AMSA response in Commonwealth waters.	Yes
Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries	Responsible for implementing Commonwealth policies and programs to support agriculture, fishery, food and forestry industries	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. No Commonwealth fisheries are active in the Operational Area. The North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Northern Prawn Fishery and Christmas Island Line Fishery are active in the revised EMBA. DAFF – Fisheries responsibilities may be relevant to the activity the North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Northern Prawn Fishery and Christmas Island Line Fishery are active in the revised EMBA.	Yes

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Department of Defence (DoD)	Responsible for defending Australia and its national interests.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. DoD's responsibilities may be relevant to the activity as defence training areas lie within the EMBA.	Yes
Department of Primary Industries and Regional Development (DPIRD)	Responsible for managing State fisheries	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The Mackerel Managed Fishery (Schedule 2 – Area 2), Pilbara Line Fishery (Condition), Pilbara Trap Managed Fishery and West Coast Deep Sea Crustacean Managed Fishery are active in the Operational Area. The Abalone Managed Fishery, Abrolhos Islands and Mid West Trawl Managed Fishery, Cockburn Sound (Line and Pot) Managed Fishery, Exmouth Gulf Beach Seine and Mesh Net Managed Fishery, Exmouth Gulf Prawn Managed Fishery, Joint Authority Southern Demersal Gillnet and Demersal Fishery, Kimberley Crab Managed Fishery, Kimberley Gillnet and Barramundi Managed Fishery, Mackerel Managed Fishery (Schedule 2 – Area 1, 2, 3; Schedule 3), Marine Aquarium Fish Managed Fishery, Nickol Bay Prawn Managed Fishery, Northern Demersal Scalefish Managed Fishery, Octopus Interim Managed Fishery, Onslow Prawn Managed Fishery, Open Access in the North Coast, Gascoyne Coast, South Coast and West Coast Bioregions, Pearl Oyster Managed Fishery, Pilbara Crab Managed Fishery, Pilbara Fish Trawl (Interim) Managed Fishery, Pilbara Line Fishery (Condition), Pilbara Trap Managed Fishery, Shark Bay Crab Managed Fishery, Shark Bay Prawn Managed Fishery, Shark Bay Scallop Managed Fishery, South Coast Crustacean Managed Fishery, South Coast Estuarine Managed Fishery, South Coast Line and Fish Trap Managed Fishery, South Coast Nearshore Net Managed Fishery, South Coast Purse-Seine Managed Fishery, South Coast Salmon Managed Fishery, South West Coast Beach Net Fishery (Order), South West Coast Salmon Managed Fishery, South West Trawl Fishery, Specimen Shell Managed Fishery, West Coast (Beach Bait Fish Net) Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, West Coast Demersal Gillnet and Demersal Longline, West Coast Demersal Scalefish (Interim) Managed Fishery,	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 11 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		West Coast Estuarine Managed Fishery, West Coast Purse Seine Fishery, West Coast Rock Lobster Managed Fishery, Cockburn Sound (Fish Net) Managed Fishery and Kimberley Prawn Managed Fishery have been active in the EMBA within the last 5 years. DPIRD's responsibilities may be relevant to the activity as the government department responsible for State fisheries.	
Department of Transport (DoT) / now Department of Transport and Major Infrastructure (DTMI)	Legislated responsibility for oil pollution response in State waters	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The proposed activity has a hydrocarbon spill risk, which may require DTMI response in State waters.	Yes
Department of Planning, Lands and Heritage (DPLH)	Responsible for state level land use planning and management, and oversight of Aboriginal cultural heritage and built heritage matters.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. There is known Maritime Cultural Heritage overlapping the EMBA.	Yes
Western Australian Museum	Manages 200 shipwreck sites of the 1,500 known to be located off the Western Australian coast.	Woodside has applied its methodology for 'Historical cultural heritage groups or organisations' under regulation 25(1)(b). There are known shipwrecks overlapping the EMBA which the Western Australian Museum may be responsible for.	Yes
Pilbara Ports	Responsible for the operation of the Port of Dampier and Port of Port Hedland.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The proposed activity has the potential to impact Pilbara Ports's responsibilities as the EMBA overlaps the Pilbara Ports's area of responsibility.	Yes
Southern Ports	Responsible for the operation of the Port of Albany and Port of Bunbury.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The EMBA does not overlap Southern Ports' area of responsibility. Woodside contacted Southern Ports, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Kimberley Ports Authority	Responsible for the operation of the Port of Yampi Sound.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The proposed activity has the potential to impact Kimberley Ports Authority's responsibilities as the EMBA overlaps Kimberley Ports Authority's area of responsibility, including Port of Yampi Sound (revised EMBA).	Yes
Mid West Ports Authority	Responsible for the operation of the Port of Geraldton.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The proposed activity has the potential to impact Mid West Ports Authority's responsibilities as the EMBA overlaps Mid West Ports Authority's area of responsibility.	Yes
Fremantle Port Authority	Responsible for the operation of Port of Fremantle.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The proposed activity has the potential to impact Fremantle Port Authority's responsibilities as the EMBA overlaps Fremantle Port Authority's area of responsibility.	Yes
Port of Christmas Island	Responsible for the operation of the Port of Christmas Island.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The proposed activity has the potential to impact Port of Christmas Island's responsibilities as the EMBA overlaps Port of Christmas Island's area of responsibility.	Yes
Port of Cocos (Keeling) Island	Responsible for the operation of the Port of Cocos (Keeling) Island.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The EMBA does not overlap Port of Cocos (Keeling) Island's area of responsibility. Woodside contacted Port of Cocos (Keeling) Islands, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 13 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (marine pests, vessels, aircraft and personnel)	DAFF administers, implements and enforces the Biosecurity Act 2015. The Department requests to be consulted where an activity has the potential to transfer marine pests. DAFF also has inspection and reporting requirements to ensure that all conveyances (vessels, installations and aircraft) arriving in Australian territory comply with international health regulations and that any biosecurity risk is managed. The Department requests to be consulted where an activity involves the movement of aircraft or vessels between Australia and offshore petroleum activities either inside or outside Australian territory.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations. DAFF – Biosecurity's responsibilities may be relevant to the proposed activities in the EMBA in the prevention of introduced marine species.	Yes
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Responsible for implementing Commonwealth policies and programs to support climate change, sustainable energy use, water resources, the environment and our heritage. Administers the <i>Underwater Cultural Heritage Act 2018</i> in collaboration with the States, Northern Territory and Norfolk Island, which is responsible for the protection of shipwrecks, sunken aircraft and other types of underwater heritage and their associated artefacts in Commonwealth waters.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations. DCCEEW's responsibilities may be relevant to the proposed activities in the EMBA as there are potential environmental impacts from the proposed activity. There is known Maritime Cultural Heritage overlapping the EMBA.	Yes
Director of National Parks (DNP)	Responsible for the management of Commonwealth parks and conservation zones.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations. DNP's responsibilities may be relevant to the activity as DNP requires an awareness of activities that occur within AMPs, and an understanding of potential impacts and risks to the values of parks (NOPSEMA guidance note: N-04750-GN1785 A620236, June 2020). Titleholders are required to consult DNP on offshore petroleum and greenhouse gas exploration activities if they occur in, or may impact	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		on the values of marine parks, including where potential spill response activities may occur in the event of a spill (i.e. scientific monitoring).	
Ningaloo Coast World Heritage Advisory Committee (NCWHAC)	Supports the DBCA to manage the Ningaloo Coast World Heritage Area.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations. The NCWHAC's responsibilities may be relevant to the activity as the EMBA overlaps the Ningaloo Marine Park.	Yes
Department of Biodiversity, Conservation and Attractions (DBCA)	Responsible for managing WA's parks, forests and reserves to achieve wildlife conservation and provide sustainable recreation and tourism opportunities.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(b) of the Environment Regulations. The DBCA's responsibilities may be relevant to the activity as EMBA overlaps WA parks, forests or reserves. Activities have the potential to impact marine tourism in the EMBA.	Yes
Northern Territory Department of Industry, Tourism and Trade (DITT) (Aquatic Biosecurity)	Monitors and manages the risk of new marine pests arriving in the Northern Territory.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(b) of the Environment Regulations. DITT (Aquatic Biosecurity)'s responsibilities may be relevant to the activity as the revised EMBA overlaps Northern Territory waters.	Yes
Department of Industry, Tourism and Trade (DITT) - NT Fisheries	Responsible for managing State fisheries in the Northern Territory	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. While no Northern Territory fisheries have been identified as relevant for this activity, the revised EMBA overlaps Northern Territory waters. Woodside contacted NT Fisheries at its discretion in line with Section 5.3.7.	No
Northern Territory Department of Environment, Parks and Water Security (DEPWS)	Responsible for managing the Northern Territory's policies to protect the environment and natural resources.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(b) of the Environment Regulations. DEPWS's responsibilities may be relevant to the activity as the revised EMBA overlaps Northern Territory waters.	Yes

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Northern Territory Environment Protection Agency (NTEPA)	Responsible for promoting the ecologically sustainable development of the Northern Territory	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(b) of the Environment Regulations. NTEPA's responsibilities may be relevant to the activity as the revised hydrocarbon spill risk associated with the proposed activity overlaps Northern Territory waters.	Yes
Northern Territory Department of Infrastructure, Planning and Logistics (DIPL) (Marine Safety)	Responsible for marine safety in Northern Territory waters.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(b) of the Environment Regulations. DIPL (Marine Safety)'s responsibilities may be relevant to the activity as the revised EMBA overlaps Northern Territory waters.	Yes
Commonwealth and State Government Departments or Agencies – Industry			
Department of Industry, Science and Resources (DISR)	Department of relevant Commonwealth Minister.	Required to be consulted under regulation 25(1)(a) of the Environment Regulations.	Yes
Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) / now Department of Mines, Petroleum and Exploration (DMPE)	Department of relevant State Minister	Required to be consulted under regulation 25(1)(c) of the Environment Regulations.	Yes
Northern Territory Department of Industry, Tourism and Trade (DITT) (Mining and Energy)	Department of relevant State Minister	Required to be consulted under regulation 25(1)(c) of the Environment Regulations where the Northern Territory is relevant.	Yes
Commonwealth Commercial fisheries and representative bodies			
North West Slope and Trawl Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Although the fishery overlaps the Operational Area, the fishery has not been active in the Operational Area within the last 5 years. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.	
Southern Bluefin Tuna Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment regulations. Woodside does not consider that the proposed activity will present a risk to licence holders, given since 1992, the majority of Australian catch has concentrated in south-eastern Australia. (Patterson et al., 2022). In addition, given fishing methods by licence holders for species fished in this fishery (Australia has a 35% share of total global allowable catch of Southern Bluefin Tuna, which is value-added through tuna ranching near Port Lincoln (South Australia), or fishing effort in New South Wales (Australian Southern Bluefin Tuna Industry Association).	No
Western Deepwater Trawl Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.	Yes
Western Skipjack Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Woodside does not consider that the activity will present a risk to licence holders, given the fishery spans the Australian Fishing Zone west of Victoria and the Torres Strait. The Fishery is not currently active and no fishing has occurred since 2009 (Patterson et al., 2022). In addition, interactions are not expected given the species' pelagic distribution fishing methods for species fished by licence holders.	No
Western Tuna and Billfish Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 17 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Although the fishery overlaps the Operational Area, the fishery has not been active in the Operational Area within the last 5 years. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.	
Northern Prawn Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the revised EMBA and has been active in the revised EMBA within the past 5 years..	Yes
Christmas Island Line Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.	Yes
Cocos (Keeling) Islands Marine Aquarium Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area or the EMBA. Woodside contacted Cocos (Keeling) Islands Marine Aquarium Fishery, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Commonwealth Fisheries Association (CFA)	Represents the interests of commercial fishers with licences in Commonwealth waters	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. No Commonwealth fisheries are active in the Operational Area. The North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Northern Prawn Fishery and Christmas Island Line Fishery are active in the EMBA. CFA's functions may be relevant to the activity as the North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Tuna and Billfish Fishery, Northern Prawn Fishery and Christmas Island Line Fishery are active in the EMBA.	
Australian Southern Bluefin Tuna Industry Association (ASBTIA)	Represents the interests of the Southern Bluefin Tuna Fishery and Western Skipjack Fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The Southern Bluefin Tuna Fishery has been assessed as not relevant to the proposed activity. As the peak representative body for the Southern Bluefin Tuna Fishery, the ASBTIA has also been assessed as not relevant. Woodside has provided information to the ASBTIA at its discretion in line with Section 5.3.7 on AFMA advice that it expects all Commonwealth fishers who have entitlements to fish within the proposed area to be consulted, which can be through the relevant fishing industry associations.	No
Tuna Australia	Represents the interests of the Western Tuna and Billfish Fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The Western Tuna and Billfish Fishery is active within the EMBA. Tuna Australia's functions may be relevant to the activity as the Western Tuna and Billfish Fishery is active in the EMBA.	Yes
Pearl Producers Association	Peak representative organisation of The Australian South Sea Pearling Industry, with members in Western Australia and the Northern Territory	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The Pearl Oyster Managed Fishery is active within the EMBA. Pearl Producers Association's functions may be relevant to the activity as the Pearl Oyster Managed Fishery is active in the EMBA.	Yes
Northern Prawn Fishery Industry Pty Ltd	Represents the interests of the Northern Prawn Fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The Northern Prawn Fishery is active within the revised EMBA. Northern Prawn Fishery Industry Pty Ltd's functions may be relevant to the activity as the Northern Prawn Fishery is active within the revised EMBA.	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 19 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
State Commercial fisheries and representative bodies			
Western Australian Fishing Industry Council (WAFIC)	Represents the interests of commercial fishers with licences in State waters.	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). The Mackerel Managed Fishery (Schedule 2 – Area 2), Pilbara Trap Managed Fishery, Pilbara Line Fishery (Condition) and West Coast Deep Sea Crustacean Managed Fishery are active in the Operational Area. The Abalone Managed Fishery, Abrolhos Islands and Mid West Trawl Managed Fishery, Cockburn Sound (Line and Pot) Managed Fishery, Exmouth Gulf Beach Seine and Mesh Net Managed Fishery, Exmouth Gulf Prawn Managed Fishery, Joint Authority Southern Demersal Gillnet and Demersal Fishery, Kimberley Crab Managed Fishery, Kimberley Gillnet and Barramundi Managed Fishery, Mackerel Managed Fishery (Schedule 2 – Area 1, 2, 3; Schedule 3), Marine Aquarium Fish Managed Fishery, Nickol Bay Prawn Managed Fishery, Northern Demersal Scalefish Managed Fishery, Octopus Interim Managed Fishery, Onslow Prawn Managed Fishery, Open Access in the North Coast, Gascoyne Coast, South Coast and West Coast Bioregions, Pearl Oyster Managed Fishery, Pilbara Crab Managed Fishery, Pilbara Fish Trawl (Interim) Managed Fishery, Pilbara Line Fishery (Condition), Pilbara Trap Managed Fishery, Shark Bay Crab Managed Fishery, Shark Bay Prawn Managed Fishery, Shark Bay Scallop Managed Fishery, South Coast Crustacean Managed Fishery, South Coast Estuarine Managed Fishery, South Coast Line and Fish Trap Managed Fishery, South Coast Nearshore Net Managed Fishery, South Coast Purse-Seine Managed Fishery, South Coast Salmon Managed Fishery, South West Coast Beach Net Fishery (Order), South West Coast Salmon Managed Fishery, South West Trawl Fishery, Specimen Shell Managed Fishery, West Coast (Beach Bait Fish Net) Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, West Coast Demersal Gillnet and Demersal Longline, West Coast Demersal Scalefish (Interim) Managed Fishery, West Coast Estuarine Managed Fishery, West Coast Purse Seine Fishery, West Coast Rock Lobster Managed Fishery, Cockburn Sound	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 20 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		(Fish Net) Managed Fishery and Kimberley Prawn Managed Fishery have been active in the EMBA within the last 5 years. WAFIC's functions may be relevant to the activity as the peak representative body for State fisheries. Woodside acknowledges WAFIC's consultation guidance and has applied this by consulting, via WAFIC, fisheries that are assessed as having a potential for interaction in the Operational Area. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario	
Marine Aquarium Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. While Woodside assessed the fishery as relevant in the Operational Area, under an agreement between WAFIC and Woodside, WAFIC has advised there is no need to consult this fishery given the proposed activities operate in depths ~180-850m which is outside the depth of the hand collection and diving methods used by this fishery. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
South West Coast Salmon Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area within the last 5 years. The fishery has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for	No

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
Mackerel Managed Fishery (Area 1, 2 and 3)	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery Area 2 overlaps the Operational Area and EMBA and has been active in the Operational Area and EMBA within the past 5 years. Woodside acknowledges WAFIC's consultation guidance and has applied this by consulting fisheries, via WAFIC, that are assessed as having a potential for interaction in the Operational Area. The fishery Areas 1 and 3 do not overlap the Operational Area. The fishery areas overlap the EMBA and have been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	Yes (Area 2)
Pilbara Crab Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area within the last 5 years. The fishery has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
West Coast Deep Sea Crustacean Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery overlaps the Operational Area and EMBA and has been active in the Operational Area and EMBA within the last 5 years. Woodside acknowledges WAFIC's consultation guidance and has applied this by consulting, via WAFIC, fisheries that are assessed as having a potential for interaction in the Operational Area	Yes
Specimen Shell Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. While Woodside assessed the fishery as relevant in the Operational Area, under the fee-for-service agreement between WAFIC and Woodside, WAFIC has advised there is no need to consult this fishery given the proposed activities operate in depths ~180-850m which is outside the depth of the hand collection and diving methods used by this fishery. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Abalone Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area within the last 5 years. The fishery has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Pearl Oyster Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area within the last 5 years. The fishery has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Onslow Prawn Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Exmouth Gulf Prawn Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 24 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	
Gascoyne Demersal Scalefish Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
West Coast Demersal Scalefish Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
West Coast Rock Lobster Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
Nickol Bay Prawn Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Shark Bay Crab Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Shark Bay Prawn Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 26 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
Shark Bay Scallop Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Kimberley Crab Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Kimberley Gillnet and Barramundi Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 27 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
Northern Demersal Scalefish Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Developmental Octopus Interim Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
West Coast Demersal Gillnet & Demersal Longline Interim Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
West Coast (Beach Bait Fish Net) Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
West Coast Estuarine Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the	No

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
West Coast Purse Seine Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Abrolhos Islands and Mid West Trawl Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Kimberley Prawn Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA.	No

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
Cockburn Sound (Line and Pot) Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Cockburn Sound (Fish Net) Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Joint Authority Southern Demersal Gillnet and Demersal Longline Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 31 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
Pilbara Fish Trawl (Interim) Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d). Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area within the last 5 years. The fishery has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Shark Bay Beach Seine and Mesh Net Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the EMBA, it has not been active in the EMBA within the past 5 years.	No
South Coast Crustacean Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 32 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
South Coast Estuarine Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
South Coast Purse-Seine Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
South West Trawl Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA.	No

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
South Coast Salmon Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
South West Coast Beach Net Fishery (Order)	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
South Coast Line and Fish Trap Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 34 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
South Coast Nearshore Net Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Exmouth Gulf Beach Seine and Mesh Net Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Open Access in the North Coast, Gascoyne Coast, South Coast and West Coast Bioregions	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 35 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
WA North Coast Shark Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area or EMBA within the past 5 years.	No
Demersal Scalefish Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	No
Pilbara Trawl Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the past 5	No

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	
Pilbara Line Fishery (Condition)	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery overlaps the Operational Area and EMBA and has been active in the Operational Area and EMBA within the past 5 years. Woodside acknowledges WAFIC's consultation guidance and has applied this by consulting, via WAFIC, fisheries that are assessed as having a potential for interaction in the Operational Area	Yes
Pilbara Trap Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery overlaps the Operational Area and the EMBA and has been active in the Operational Area and the EMBA within the past 5 years. Woodside acknowledges WAFIC's consultation guidance and has applied this by consulting, via WAFIC, fisheries that are assessed as having a potential for interaction in the Operational Area	Yes
Western Rock Lobster Council	Represents the interests of the Western Rock Lobster Managed Fishery.	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The West Coast Rock Lobster Managed Fishery is active within the EMBA. The Western Rock Lobster Council's functions may be relevant to the activity as the West Coast Rock Lobster Managed Fishery is active in the EMBA.	Yes

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Aquaculture Council of Western Australia (ACWA)	State peak body for WA's aquaculture industry.	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. ACWA's members are active within the EMBA. As the peak body for WA's aquaculture industry, ACWA's functions may be relevant to the activity as ACWA members are active in the EMBA.	Yes
Northern Territory Commercial fisheries and representative bodies			
Northern Territory Seafood Council (NTSC)	Represents the NT seafood industry	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. While the revised EMBA overlaps Northern Territory waters, no Northern Territory fisheries have been assessed as relevant. Woodside contacted NTSC at its discretion in line with Section 5.3.7.	No
Northern Territory Aquarium Fish/Display Fish Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area or EMBA. Woodside contacted Northern Territory Aquarium Fish/Display Fish Managed Fishery, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Northern Territory Spanish Mackerel Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area or EMBA. Woodside contacted Northern Territory Spanish Mackerel Managed Fishery, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Northern Territory Offshore Net and Line Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area or EMBA.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 38 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Woodside contacted Northern Territory Offshore Net and Line Managed Fishery, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	
Northern Territory Demersal Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area or EMBA. Woodside contacted Northern Territory Demersal Managed Fishery, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Northern Territory Mud Crab Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area or EMBA. Woodside contacted Northern Territory Mud Crab Managed Fishery, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Northern Territory Mollusc Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area or EMBA. Woodside contacted Northern Territory Mollusc Managed Fishery, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Northern Territory Aquaculture Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area or EMBA. Woodside contacted Northern Territory Aquaculture Managed Fishery, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Recreational marine users and representative bodies			

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 39 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Exmouth Recreational Marine Users	Exmouth-based dive, tourism and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Andro Maritime Services Australia, Aquatic Adventure Exmouth, Birds Eye View, Blue Horizon Charters, Blue Lightning Charters, Cape Immersion Tours, Coastal Adventure Tours, Coral Bay Ecotours, Cruise Ningaloo, Dampier Island Tourism, Dive Ningaloo, Evolution Fishing Charters, Exmouth Adventure Co., Exmouth Dive Centre, Exmouth Fly Fishing, Exmouth Game Fishing Club, Indian Chief Charters, Innkeeper Sport Fishing Charter, Kings Ningaloo Reef Tours, Live Ningaloo, Mahi Fishing Charters, Montebello Island Safaris, Ningaloo Aviation, Ningaloo Blue, Ningaloo Coral Bay Boats, Ningaloo Discovery, Ningaloo Ecology Cruises, Ningaloo Fly Fishing, Ningaloo Marine Interaction, Ningaloo Reef Dive, Ningaloo Reef to Range Tours, Ningaloo Safari Tours, Ningaloo Sportfishing Charters, Ningaloo Whaleshark n Dive, Ningaloo Whaleshark Swim, Ocean Eco Adventures, On Strike Charters, Peak Sportfishing Charters, Pelican Charters, Sail Ningaloo, Sea Force Charters, Set the Hook, The Mobile Observatory, Three Islands, Top Gun Charters, Ultimate WaterSports, Venture Ningaloo, View Ningaloo, Warrior Princess Charters, Yardi Creek Boat Tours (email). Activities have the potential to impact Exmouth-based dive, tourism and charter operator's functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.	Yes
Gascoyne Recreational Marine Users	Gascoyne-based dive, tourism and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d). Silverado Charters Pty Ltd, Reel Force Charters Pty Ltd, D & N Nominees Pty Ltd, Lyons Family Super Pty Ltd, Seafresh Holdings Pty Ltd, Eco-Abrolhos Pty Ltd, C Emery Fishing Pty Ltd, On Strike Charters (Wa) Pty Ltd, Melkit Pty Ltd, Maritime Engineering Services Pty Ltd, G. C. Bass Nominees Pty Ltd, Breffen Nominees Pty Ltd, W.A Maritime Investments Pty Ltd, Blue Juice Tours Pty Ltd, Surefire Marine Services Pty Ltd, Makalee Pty Ltd, L & S Family Holdings Pty Ltd, Bondall Pty Ltd, Kw Marine Pty Ltd, Shark bay Charters Pty Ltd, Bluecity Enterprises Pty Ltd, Jostan Holdings Pty Ltd, Monkey Mia Yacht Charters Pty Ltd, On Strike Charters (Wa) Pty Ltd, Rainfield Pty	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 40 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Ltd, Monster Sportfishing Adventures Pty Ltd, Lulamanzi Investments Pty Ltd, Millennial Charters Pty Ltd, Chapel Nominees Pty Ltd, Regalchoice Holdings Pty Ltd, Fawesome Expeditions Pty Ltd, On Strike Charters (Wa) Pty Ltd, The Great Escape Charter Company Pty Ltd, Aoa International Pty Ltd, Fire Tiger Pty Ltd (letter). Activities have the potential to impact Gascoyne-based dive, tourism and charter operators' functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.	
Pilbara/Kimberley Recreational Marine Users	Pilbara/Kimberley-based dive, tourism and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Willie Creek Pearl Farm Pty Ltd, Super Yachts Perth Pty Ltd, Silverado Charters Pty Ltd, Bloor Street Investments Pty Ltd, Lugger Enterprises Pty Ltd, Eco-Abrolhos Pty Ltd, C Emery Fishing Pty Ltd, Discovery Holiday Parks Pty Limited, Kimberley Marine Pty Ltd, Coral Princess Cruises (Nq) Pty Ltd, Marine Agents Australia Pty Ltd, Maritime Engineering Services Pty Ltd, G. C. Bass Nominees Pty Ltd, Coastway Investments Pty Ltd, Kcc Group Pty Ltd, Cm Ventures Pty Ltd, Lombadina Aboriginal Corporation, Australian Port And Marine Services Pty Ltd, Hartley Motorcycles Pty Ltd, Humbug Fishing Pty Ltd, Brefjen Nominees Pty Ltd, Melkit Pty Ltd, W.A Maritime Investments Pty Ltd, Blue Juice Tours Pty Ltd, Kw Marine Pty Ltd, L & S Family Holdings Pty Ltd, Bondall Pty Ltd, Lake Argyle Cruises Pty Ltd, Sealife Charters Pty Ltd, Mal Miles Adventures Pty Ltd, Mackerel Islands Pty Ltd, Diversity Charter Company Wa Pty Ltd, Split Tide Pty Ltd, Broome Tours Pty Ltd, North Star Cruises Australia Pty Ltd, Charter Express Pty Ltd, Sea 2 Pty Ltd, Hotel And Resort Investments Pty Ltd, L & S Family Holdings Pty Ltd, Down The Line Charters Pty Ltd, Kingfisher Island Resort Pty Ltd, Rstg Pty Limited, Sealife Charters Pty Ltd, Coral Princess Cruises (Nq) Pty Ltd, Kimberley Quest Adventures Pty Ltd, Monster Sportfishing Adventures Pty Ltd, Ocean Charters Pty Ltd, Lulamanzi Investments Pty Ltd, Millennial Charters Pty Ltd, Chapel Nominees Pty Ltd, Fawesome Expeditions Pty Ltd, The Great Escape Charter Company Pty Ltd, Aoa International Pty Ltd, Kimberley Getaway Cruises Pty Ltd, King Sound Resort Hotel Pty (letter).	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 41 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Activities have the potential to impact Pilbara/Kimberley-based dive, tourism and charter operator's functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.	
Karratha Recreational Marine Users	Karratha-based dive, tourism and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Nickol Bay Sport Fishing Club, Archipelago Adventures, Hampton Harbour Boat & Sailing Club, King Bay Game Fishing Club, Marine Rescue Dampier, Port Walcott Volunteer Marine Rescue, Port Walcott Yacht Club, Reef Seeker Charters, West Pilbara Volunteer Sea Search and Rescue Group (email). Activities have the potential to impact Karratha-based dive, tourism and charter operators' functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.	Yes
West Coast Recreational Marine Users	West Coast-based dive, tourism and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Alltric Pty Ltd & Bluecity Enterprises Pty Ltd, Timberlane Nominees Pty Ltd Trading As Generation Fisheries, Perth Diving Academy Pty Ltd, Reel Force Charters Pty Ltd, Westerner Corporation Pty Ltd, Lugger Enterprises Pty Ltd, D & N Nominees Pty Ltd, Riverblitz Pty Ltd, Third Reef Pty Ltd, Southern Salt Holdings Pty Ltd, Blue Water Adventure Charters Pty Ltd, Timberlane Nominees Pty Ltd, Allegretta Holdings Pty Ltd, Maritime Engineering Services Pty Ltd, Kempton Fisheries Pty Ltd, Latitude Fisheries Pty Ltd, Quay Ventures Pty Ltd, Brefjen Nominees Pty Ltd, Boarbarrell Pty Ltd, W.A Maritime Investments Pty Ltd, Porlock Investments Pty Ltd, Makalee Pty Ltd, Indi Blue Pty Ltd, Crensat Nominees Pty Ltd, Blue Juice Tours Pty Ltd, Surefire Marine Services Pty Ltd, Kw Marine Pty Ltd, Viency Pty Ltd, L & S Family Holdings Pty Ltd, Bondall Pty Ltd, Bluecity Enterprises Pty Ltd, Pine Dene Nominees Pty Ltd, Perth Diving Academy, Hillarys Pty Ltd, G. C. Bass Nominees Pty Ltd, Sharkbay Charters Pty Ltd, North Star Cruises Australia Pty Ltd, Western Blue Dive Pty Ltd, Biwal Pty Ltd Trading As Wallabi Carting, El Alauron Pty Ltd, Bondall Marketing	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 42 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Pty Ltd, Jostan Holdings Pty Ltd, Johnson Nominees Super Pty Ltd, Avanova Pty Ltd, Discovery Iii Pty Ltd, Abbey Bay Pty Ltd, Petara Pty Ltd, Rogue Seas Pty Ltd, R & J Glass Pty Ltd, Lulamanzi Investments Pty Ltd, Reefwalker Pty Ltd, Millennial Charters Pty Ltd, Quay Ventures Pty Ltd, Chapel Nominees Pty Ltd, Aquatic Adventures (Wa) Pty Ltd, The Great Escape Charter Company Pty Ltd, Aoa International Pty Ltd, Punchline Pty Ltd Trading As Karma Charters & Dorre Island Fishing Company, Jayson Fishing Company (Wa) Pty Ltd, Kybret Pty Ltd, Temshore Pty Ltd, Eco-Abrolhos Pty Ltd (letter). Activities have the potential to impact West Coast-based dive, tourism and charter operator's functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.	
South Coast Recreational Marine Users	South West-based dive, tourism and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Temshore Pty Ltd, Eco-Abrolhos Pty Ltd, Hulson Pty Ltd (letter). Activities have the potential to impact South Coast-based dive, tourism and charter operator's functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.	Yes
Christmas Island Recreational Marine Users	Christmas Island-based dive, tourism and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Fish Christmas Island, Freedive Christmas Island, Christmas Island Fishing and Charter (email), Shorefire Christmas Island (letter). Activities have the potential to impact Christmas Island-based dive, tourism and charter operator's functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.	Yes
Shark Bay Marine Users	Shark Bay-based dive and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations.	No

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Mac Attack Fishing Charters, Perfect Nature Cruises, Tidal Moon, Ocean Park (email). The Shire of Shark Bay identified these Shark Bay marine operators as potentially relevant persons. Woodside chose to contact the Shark Bay marine operators at its discretion in line with Section 5.3.7.	
Recfishwest	Represents the interests of recreational fishers in WA.	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Activities have the potential to impact recreational fishers' functions, interests or activities due to the location offshore and there has been recorded charter effort in the EMBA in the past 5 years.	Yes
Marine Tourism WA	Represents the interests of marine tourism in WA.	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Activities have the potential to impact recreational fishers' functions, interests or activities due to the location offshore and there has been recorded charter effort in the EMBA in the past 5 years.	Yes
WA Game Fishing Association	Represents the interests of game fishers in WA.	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Activities have the potential to impact game fishers' functions, interests or activities due to the location offshore and there has been recorded charter effort in the EMBA in the past 5 years.	Yes
Amateur Fishermen's Association of the NT	Represents the interests of recreational fishers in NT.	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Activities do not have the potential to impact amateur fishers' functions, interests or activities due to the limited shoreline section of the Northern Territory included in the EMBA. Woodside chose to contact Amateur Fishermen's Association of the NT at its discretion in line with Section 5.3.7.	No

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Northern Territory Guided Fishing Industry Association (NTGFIA)	Represents professional fishing guides and operators in the NT.	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Activities do not have the potential to impact NTGFIA's functions, interests or activities due to the limited shoreline section of the Northern Territory included in the EMBA. Woodside chose to contact NTGFIA at its discretion in line with Section 5.3.7.	No
Titleholders and Operators			
Chevron Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Western Gas	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Exxon Mobil Australia Resources Company	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Shell Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
BP Developments Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Carnarvon Energy	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Osaka Gas Gorgon (part of Chevron)	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 45 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Tokyo Gas Gorgon (now MidOcean Gorgon, part of Chevron)	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
JERA Gorgon (part of Chevron)	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
PE Wheatstone	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Kyushu Electric Wheatstone	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Eni Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Finder Energy (Finder No 16)	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Jadestone	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
KUFPEC	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Santos NA Energy Holdings / Santos Ltd / Santos WA Northwest / Santos Offshore / Santos WA Southwest / Santos (BOL) / Santos WA PVG / Santos Browse	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 46 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Coastal Oil and Gas	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Bounty Oil and Gas	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
OMV Australia / Sapura OMV Upstream	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
KATO Energy / KATO Corowa / KATO NWS / KATO Amulet	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
INPEX Alpha	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
JX Nippon O&G Exploration (Australia)	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Vermilion Oil & Gas	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
3D Oil Ltd	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
AGI Tubridgi P/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations.	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 47 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Titleholder or Operator's permit areas overlaps the EMBA.	
Allasso Energy P/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
AWE Perth P/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Good Earth Energy Corporation	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Pathfinder Energy P/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
PBE Operations P/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Pilot Energy Ltd	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Petro China International Investment	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Skye Napoleon; Skye Petroleum; Skye Resources	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Triangle Energy	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 48 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
VRX Silica Ltd	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Beach Energy	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
NZOG Compass	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Origin Energy Browse	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Mid West Geothermal Power P/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Mitsui E&P Australia (MEPAU)	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
DeepC Store	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Energy Resources	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
InCapture	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
SK Earthon	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations.	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 49 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		Titleholder or Operator's permit areas overlaps the EMBA.	
H2EX	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Beagle No 1	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Melbana Energy Limited	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Longreach Capital	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Peak Industry Representative bodies			
Australian Energy Producers (AEP)	Represents the interests of oil and gas explorers and producers in Australia.	Woodside has applied its methodology for 'Peak Industry Representative bodies' under regulation 25(1)(d) of the Environment Regulations. AEP's responsibilities are identified as having an intersect with Woodside's planned activities in the EMBA.	Yes
National Energy Resources Australia (NERA)	Not-for-profit organisation working with partners in government, research, science and industry to help decarbonise Australia's energy sector.	Woodside has applied its methodology for 'Peak Industry Representative bodies' under regulation 25(1)(d) of the Environment Regulations. Woodside chose to contact NERA at its discretion in line with Section 5.3.7 however the organisation has since disbanded.	No
Traditional Custodians and nominated representative corporations			
Murujuga Aboriginal Corporation (MAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations.	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		MAC is the Nominated Representative Corporation under the Burrup and Maitland Industrial Estates Agreement (BMIEA). The EMBA overlaps the Murujuga National Park. MAC was established to represent the members of competing Native Title claims over Murujuga, collectively known as the Ngarda Ngarli and comprising Mardudhunera, Ngarluma, Yaburara, Yindjibarndi and Wong-Goo-Tt-Oo people. The determination of the competing Native Title claims resulted in no native title being found over the lands subject to the BMIEA or below the low water mark. MAC also owns and co-manages the Murujuga National Park, is responsible for the Dampier Archipelago National Heritage Place and is progressing the World Heritage nomination of the Murujuga Cultural Landscape.	
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Gnulli, Gnulli #2 and Gnulli #3 - Yinggarda, Baiyungu and Thalanyji People native title claim, the determination of which the Baiyungu, Thalanyji and Yinggarda people are party to, overlaps the EMBA. The NTGAC and Yi YAC are the Registered Native Title Body Corporates holding native title on behalf of the Baiyungu, Thalanyji and Yinggarda people. NTGAC is party, with the WA State Government, to the Ningaloo Conservation Estate Indigenous Land Use Agreement (ILUA), which overlaps the EMBA. NTGAC is also party to the Gnaraloo ILUA and Nganhurra Thanardi Garrbu Aboriginal Corporation Conservation Estate ILUA, which overlaps the EMBA. The NTGAC is responsible for the joint management of the Ningaloo Marine Park (State Waters), the Cape Range National Park and new conservation areas extending along the Ningaloo Coast, which runs in parallel to the outer Ningaloo Marine Park in Commonwealth waters. NTGAC's nominated representative is the Yamatji Marlpa Aboriginal Corporation (YMAC) and the NTGAC executive officer and contact officer pursuant to the <i>Corporations (Aboriginal and Torres Strait</i>	Yes

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		<i>Islander) Act 2006</i> is employed by YMAC. Woodside has therefore consulted the NTGAC, via YMAC.	
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Thalanyji native title claim, which BTAC is the Registered Native Title Body Corporate for, overlaps the EMBA. BTAC is also party to the Ashburton Salt Project ILUA (Body Corporate Agreement) and Macedon ILUA, which overlaps the EMBA.	Yes
Yinggarda Aboriginal Corporation (YAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Gnulli, Gnulli #2 and Gnulli #3 - Yinggarda, Baiyungu and Thalanyji People native title claim, the determination of which the Baiyungu, Thalanyji and Yinggarda people are party to, overlaps the EMBA. YAC is party to the Quobba – Yinggarda Pastoral ILUA, which overlaps the EMBA, and the Brickhouse and Yinggarda Aboriginal Corporation ILUA, which is coastally adjacent to the EMBA. The Yinggarda Aboriginal Corporations nominated representative is Gumala Aboriginal Corporation.	Yes
Kariyarra Aboriginal Corporation (KAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Kariyarra native title claim, for which the KAC is the Registered Native Title Body Corporate, overlaps the EMBA. KAC is also party to the Kariyarra and State ILUA, which overlaps the EMBA.	Yes
Wirrawandi Aboriginal Corporation (WAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations.	Yes

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		The Yaburara & Mardudhunera People native title determination, for which WAC is the Registered Native Title Body Corporate, overlaps the EMBA. WAC is also party to the Cape Preston Project Deed (YM Mardie ILUA), Cape Preston West Export Facility, and KM & YM Indigenous Land Use Agreement 2018, which overlap the EMBA.	
Robe River Kuruma Aboriginal Corporation (RRKAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. RRKAC is party to the KM & YM Indigenous Land Use Agreement 2018 and RTIO Kuruma Marthudunera People ILUA, which overlap the EMBA.	Yes
Ngarluma Aboriginal Corporation (NAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Ngarluma People native title claim, for which NAC is the Registered Native Title Body Corporate, overlaps the EMBA. The Ngarluma/Yindjibarndi People native title claim, for which NAC and the Yindjibarndi Aboriginal Corporation are the Registered Native Title Body Corporates, overlaps the EMBA. NAC is also party to the Anketell Port, Infrastructure Corridor and Industrial Estates Agreement and RTIO Ngarluma ILUA (Body Corporate Agreement), which overlaps the EMBA. NAC is also party to the management of the Dampier Marine Park (Commonwealth).	Yes
Yindjibarndi Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Ngarluma/Yindjibarndi People native title claim, for which NAC and the Yindjibarndi Aboriginal Corporation are the Registered Native Title Body Corporates, overlaps the EMBA. Yindjibarndi Aboriginal Corporation is also party to the management of the Dampier Marine Park (Commonwealth).	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 53 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Wanparta Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Ngarla and Ngarla #2 (Determination Area A) native title claim determination, for which the Wanparta Aboriginal Corporation is the Registered Native Title Body Corporate, overlaps the EMBA. The Ngarla Overlap Proceeding and Ngarla People (Mount Goldsworthy Lease Proceeding) native title claim determination, for which the Wanparta Aboriginal Corporation is the Registered Native Title Body Corporate, are coastally adjacent the EMBA. The Wanparta Aboriginal Corporation is party to the Ngarla Pastoral ILUA and Ngarla PBC KSCS ILUA, which overlaps the EMBA. The EMBA overlaps the Eighty Mile Beach Marine Park (State), which is jointly managed by DBCA and Wanparta Aboriginal Corporation.	Yes
Malgana Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Malgana Part A native title claim, for which the Malgana Aboriginal Corporation is the Registered Native Title Body Corporate, overlaps the EMBA. The Nanda People Part B, Malgana 2 and Malgana 3 native title claim, for which the Malgana Aboriginal Corporation and Nanda Aboriginal Corporation are the Registered Native Title Body Corporates, overlaps the EMBA. The Malgana Aboriginal Corporation is also party to the Malgana Aboriginal Corporation Conservation Estate ILUA and Malgana Tamala Pastoral Lease Agreement, which overlaps the EMBA. The Malgana Woodleigh Carbla Pastoral Lease Agreement and Malgana Wooramel Pastoral Lease Agreement, which are coastally adjacent to the EMBA.	Yes
Nanda Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations.	Yes

		The Nanda People and Nanda #2 native title claim, for which the Nanda Aboriginal Corporation is the Registered Native Title Body Corporate, overlaps the EMBA. The Nanda People Part B, Malgana 2 and Malgana 3 native title claim, for which the Malgana Aboriginal Corporation and Nanda Aboriginal Corporation are the Registered Native Title Body Corporates, overlaps the EMBA. The Nanda Aboriginal Corporation is a party to the Nanda Conservation Estate ILUA, which overlaps the EMBA.	
Gogolanyngor Aboriginal Corporation (GAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Bindunbur native title claim, for which the Gogolanyngor Aboriginal Corporation, Nimanburr Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation are the Registered Native Title Body Corporates, overlaps the EMBA. The Jabirr Jabirr/Ngumbarl native title claim, for which the Gogolanyngor Aboriginal Corporation is the Registered Native Title Body Corporate, overlaps the EMBA. The Jabirr Jabirr/Ngumbarl Part B native title claim, for which the Gogolanyngor Aboriginal Corporation is the Registered Native Title Body Corporate, is coastally adjacent to the EMBA. The Bindunbur #2 native title claim, for which the Gogolanyngor Aboriginal Corporation, Nimanburr Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation are the Registered Native Title Body Corporates, is coastally adjacent to the EMBA. The Bindunbur Part B native title claim, for which the Gogolanyngor Aboriginal Corporation and Nimanburr Aboriginal Corporation are the Registered Native Title Body Corporates, is coastally adjacent to the EMBA.	Yes
Nimanburr Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Bindunbur native title claim, for which the Gogolanyngor Aboriginal Corporation, Nimanburr Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation are the Registered Native Title Body Corporates, overlaps the EMBA.	Yes

		The Bindunbur #2 native title claim, for which the Gogolanyngor Aboriginal Corporation, Nimanburr Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation are the Registered Native Title Body Corporates, is coastally adjacent to the EMBA. The Bindunbur Part B native title claim, for which the Gogolanyngor Aboriginal Corporation and Nimanburr Aboriginal Corporation are the Registered Native Title Body Corporates, is coastally adjacent to the EMBA.	
Nyul Nyul PBC Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Bindunbur native title claim, for which the Gogolanyngor Aboriginal Corporation, Nimanburr Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation are the Registered Native Title Body Corporates, overlaps the EMBA. The Bindunbur #2 native title claim, for which the Gogolanyngor Aboriginal Corporation, Nimanburr Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation are the Registered Native Title Body Corporates, is coastally adjacent to the EMBA.	Yes
Karajarri Traditional Lands Association (Aboriginal Corporation) (KTLA)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Karajarri People (Area A) and Karajarri People (Area B) native title claim, for which the Karajarri Traditional Lands Association (Aboriginal Corporation) is the Registered Native Title Body Corporate, overlap the EMBA. The Karajarri Traditional Lands Association (Aboriginal Corporation) is also party to the Great Sandy Desert Project ILUA – Infrastructure and Karajarri Traditional Lands Association KSCS Eighty Mile Beach ILUA, which overlap the EMBA.	Yes
Wanjina-Wunggurr (Native Title) Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Dambimangari native title claim and Unguu Part A native title claim, for which the Wanjina-Wunggurr (Native Title) Aboriginal Corporation is the Registered Native Title Body Corporate, overlaps the EMBA.	Yes

		The Wanjina-Wunggurr (Native Title) Aboriginal Corporation is a party to the Dambimangari KSCS Marine Parks ILUA, the KTS Co-Existence ILUA and The Cockatoo Island Co-Existence ILUA, which overlap the EMBA. The Wanjina-Wunggurr (Native Title) Aboriginal Corporation is a party to the Dambimangari Country Marine Parks ILUA and Reserve 30674 ILUA, which are coastally adjacent to the EMBA.	
Mayala Inninalang Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Mayala People native title claim, for which the Mayala Inninalang Aboriginal Corporation is the Registered Native Title Body Corporate, overlaps and is coastally adjacent to the EMBA. The Mayala Inninalang Aboriginal Corporation is also party to the Mayala Country Marine Park ILUA, which overlaps the EMBA.	Yes
Nyangumarta Warrarn Aboriginal Corporation (NWAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Nyangumarta People (Part A) native title claim, for which the Nyangumarta Warrarn Aboriginal Corporation is the Registered Native Title Body Corporate, overlaps the EMBA. The Nyangumarta Warrarn Aboriginal Corporation is also party to the Nyangumarta PBC KSCS ILUA, Nyangumarta Warrarn Aboriginal Corporation & Mandora Pastoral Lease ILUA and Nyangumarta Warrarn Aboriginal Corporation & Wallal Downs Pastoral Lease ILUA, which overlap the EMBA. The EMBA overlaps the Eighty Mile Beach Marine Park (State), which is joint managed by DBCA and NWAC.	Yes
Nyangumarta Karajarri Aboriginal Corporation (NKAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Nyangumarta-Karajarri Overlap Proceeding (Yawinya) native title claim, for which the Nyangumarta Karajarri Aboriginal Corporation is the Registered Native Title Body Corporate, overlaps the EMBA. The Nyangumarta Karajarri Aboriginal Corporation is also party to the NKAC KSCS Eighty Mile Beach ILUA, which overlaps the EMBA, and the Nyangumarta Karajarri and Anna Plains Station ILUA, and the	Yes

		Nyangumarta Karajarri and Mandora Station ILUA, which are coastally adjacent to the EMBA.	
Yawuru Native Title Holders Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Rubibi Community native title claim, for which the Yawuru Native Title Holders Aboriginal Corporation is the Registered Native Title Body Corporate, overlaps the EMBA. The Yawuru Native Title Holders Aboriginal Corporation is also party to the Eco Beach ILUA, the Yawuru Nagulagun / Roebuck Bay Marine Park ILUA, and the Yawuru Prescribed Body Corporate ILUA – Broome, which overlap the EMBA.	Yes
Dambimangari Aboriginal Corporation (DAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians' under regulation 25(1)(d) of the Environment Regulations. DAC is party to the Dambimangari KSCS Marine Parks ILUA, KTS Co-Existence ILUA and The Cockatoo Island Co-Existence ILUA, which overlap the EMBA. DAC is also party to the Dambimangari Country Marine Park ILUA and the Reserve 30674 ILUA, which are coastally adjacent to the EMBA. The EMBA overlaps the Lalang-garram / Camden Sound Marine Park and North Lalang-garram Marine Park (State), which is joint managed by DBCA and DAC.	Yes
Bardi and Jawi Niimidiman Aboriginal Corporation (BJNAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Bardi and Jawi native title determination, for which the BJNAC is the Registered Native Title Body Corporate, overlaps the EMBA. BJNAC is also party to the Bardi Jawi Conservation Estate ILUA, which overlaps the EMBA.	Yes
Bundi Yamatji Aboriginal Corporation (BYAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Yamatji Nation, for which the Bundi Yamatji Aboriginal Corporation is the Registered Native Title Body Corporate, overlaps the EMBA.	Yes

		The Bundi Yamatji Aboriginal Corporation is a party to the Yamatji Nation Agreement, which overlaps the EMBA.	
Gnaala Karla Booja Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Gnaala Karla Booja Aboriginal Corporation is a party to the Gnaala Karla Booja ILUA, which overlaps the EMBA.	Yes
Karri Karrak Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Karri Karrak Aboriginal Corporation is a party to the South West Boojarah #2 ILUA, which overlaps the EMBA.	Yes
Wagyl Kaip Southern Noongar Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Wagyl Kaip Southern Noongar Aboriginal Corporation is a party to the Wagyl Kaip & Southern Noongar ILUA, which overlaps the EMBA.	Yes
Whadjuk Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Whadjuk Aboriginal Corporation is a party to the Whadjuk People ILUA, which overlaps the EMBA.	Yes
Yued Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Yued Aboriginal Corporation is a party to the Yued ILUA, which overlaps the EMBA. The EMBA overlaps the Jurien Bay State Marine Park, over which the Jurien Bay Marine Park Management Plan 2005-2015 specifies Yued native title claimants as representing people who may have cultural interests in the marine park.	Yes

Balanggarra Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Balanggarra (Combined) native title claim, for which the Balanggarra Aboriginal Corporation is the registered Native Title Body Corporate, overlaps the revised EMBA. The Balanggarra Aboriginal Corporation is also party to the BAC KSCS ILUA, which overlaps the revised EMBA. Balanggarra Aboriginal Corporation was not relevant based on the original EMBA and had already been included as part of the consultation, which was recorded in Table 3: Engagement Report with Persons or Organisations Assessed as Not Relevant. Due to the revised EMBA, Balanggarra Aboriginal Corporation has been determined relevant and included in Table 2: Consultation Report with Relevant Persons or Organisations.	Yes
Ngadju Native Title Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Ngadju, for which Ngadju Native Title Aboriginal Corporation is the Registered Native Title Body Corporate, does not overlap and is not coastally adjacent to the EMBA. Woodside contacted Ngadju Native Title Aboriginal Corporation, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Yawoorroong Miriung Gajerrong Yirrgab Noong Dawang Aboriginal Corporation (" MG Corp ") which is also the representative of Miriung and Gajerrong #4 and Miriung and Gajerrong #1 RTNBCs – PBCs)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Miriung Gajerrong #4 native title determination, for which Miriung Gajerrong #4 PBC, for which Miriung and Gajerrong #4 is the Registered Native Title Body Corporate, does not overlap and is not coastally adjacent to the EMBA. MG Corp is the Representative Aboriginal Corporation for Miriung Gajerrong #4 RNTBC. Woodside contacted MG Corp, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No

Mirning Traditional Lands Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The WA Mirning People native title determination, for which the Mirning Traditional Lands Aboriginal Corporation is the Registered Native Title Body Corporate, does not overlap and is not coastally adjacent to the EMBA. Woodside contacted Mirning Traditional Lands Aboriginal Corporation, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Esperance Tjaltjraak Native Title Aboriginal Corporation (ETNTAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. ETNTAC was relevant based on the original EMBA and had already been included as part of the consultation, which was recorded in Table 2: Consultation Report with Relevant Persons or Organisations. Due to the revised EMBA, ETNTAC is no longer a relevant person. To ensure an inclusive approach and to consult more widely, Woodside has included the ETNTAC in Table 3: Engagement Report with Persons or Organisations Assessed as Not Relevant.	No
Wilinggin Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. Wilinggin Aboriginal Corporation was relevant based on the original EMBA and had already been included as part of the consultation, which was recorded in Table 2: Consultation Report with Relevant Persons or Organisations. Due to the revised EMBA, Wilinggin Aboriginal Corporation is no longer a relevant person. To ensure an inclusive approach and to consult more widely, Woodside has included the Wilinggin Aboriginal Corporation in Table 3: Engagement Report with Persons or Organisations Assessed as Not Relevant.	No

Wunambal Gaambera Aboriginal Corporation (WGAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. WGAC is an agent of Wanjina-Wunggurr (Native Title) Aboriginal Corporation for Wunambal and Gaambera people. WGAC was relevant based on the original EMBA and had already been included as part of the consultation, which was recorded in Table 2: Consultation Report with Relevant Persons or Organisations. Due to the revised EMBA, WGAC is no longer a relevant person. To ensure an inclusive approach and to consult more widely, Woodside has included the WGAC in Table 3: Engagement Report with Persons or Organisations Assessed as Not Relevant.	No
Walalakoo Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Walalakoo Aboriginal Corporation does not overlap and is not coastally adjacent to the EMBA. Walalakoo is party to the Yeeda Station and Nyikina Mangala ILUA, which is adjacent to the EMBA. Woodside has not consulted with Walalakoo Aboriginal Corporation, as they have voluntarily chosen to consult only on activities within the Browse Basin.	No
Native Title Representative Bodies			
Yamatji Marlpa Aboriginal Corporation (YMAC)	Native Title Representative Body	Woodside has applied its methodology for 'Native Title Representative Bodies' under regulation 25(1)(d) of the Environment Regulations. YMAC is the Native Title Representative Body for the Yamatji and Pilbara regions of Western Australia. As such, they are not a Prescribed or Registered Native Title Body Corporate but exist to assist native title claimants and holders. The NTGAC and Nanda Aboriginal Corporation's nominated representative is YMAC. Woodside has therefore consulted the NTGAC and Nanda Aboriginal Corporation via YMAC.	Yes

		Woodside contacted YMAC to seek guidance with respect to the appropriate Traditional Custodian group(s) to engage with respect to the proposed activity where this was not clear. YMAC's functions may be relevant to the proposed activity in relation to its facilitation and coordination function as a Native Title Representative Body under applicable federal legislation.	
Kimberley Land Council (KLC)	Native Title Representative Body	Woodside has applied its methodology for 'Native Title Representative Bodies' under regulation 25 (1)(d) of the Environment Regulations. KLC is the Native Title Representative Body for the Kimberley region of Western Australia. As such, they are not a Prescribed or Registered Native Title Body Corporate but exist to assist native title claimants and holders. KLC's functions may be relevant to the proposed activity in relation to its facilitation and coordination function as a Native Title Representative Body under applicable federal legislation. KLC is party to the SDWK Nyikina Mangala ILUA, which is coastally adjacent to the EMBA.	Yes
Northern Land Council (NLC)	Native Title Representative Body	Woodside has applied its methodology for 'Native Title Representative Bodies' under regulation 25(1)(d) of the Environment Regulations. NLC is the Native Title Representative Body for the northern region of the Northern Territory. As such, they are not a Prescribed or Registered Native Title Body Corporate but exist to assist native title claimants and holders. NLC's functions may be relevant to the proposed activity in relation to its facilitation and coordination function as a Native Title Representative Body under applicable federal legislation.	Yes

Self-identified First Nations Groups

Ngarluma Yindjibarndi Foundation Ltd (NYFL)	Traditional Custodian - entity	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Ngarluma and Yindjibarndi People, the NWS JVs and Woodside entered into an agreement on 22 December 1998 (Agreement). NYFL was subsequently incorporated under the terms of the Agreement to act as trustee for the trust established to benefit the	Yes
---	--------------------------------	---	-----

		Ngarluma and Yindjibarndi People and the Roebourne Aboriginal Community. Subsequent to that, the Ngarluma people settled their native title claim and established their nominated representative corporation, the Ngarluma Aboriginal Corporation; and the Yindjibarndi people settled their native title claim and established their nominated representative corporation, the Yindjibarndi Aboriginal Corporation . The Ngarluma Aboriginal Corporation and the Yindjibarndi Aboriginal Corporation are the appropriate representative bodies for consultation in relation to cultural interests. NYFL's functions may be relevant to the proposed activity in relation to its functions under the Agreement	
Local government and elected Parliamentary representatives, community groups or organisations			
Shire of Exmouth	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Exmouth, Learmonth and North West Cape.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations under regulation 25(1)(d) of the Environment Regulations. The Shire of Exmouth's area of responsibility overlaps the EMBA.	Yes
Shire of Ashburton	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Onslow, Pannawonica, Paraburdoo and Tom Price.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d). The Shire of Ashburton's area of responsibility overlaps the EMBA.	Yes
City of Karratha	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Baynton, Baynton West, Bulgarra, Cossack, Dampier, Gap Ridge, Karratha, Karratha Industrial Estate, Jingarri, Madigan, Millars Well, Nickol, Pegs Creek, Point Samson, Roebourne, Whim Creek and Wickham.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Karratha's area of responsibility overlaps the EMBA.	Yes
Shire of Carnarvon	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Babbage Island, Brockman, Browns Range, Carnarvon, Coral Bay, East Carnarvon, Greys Plain, Ingaarda,	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Carnarvon's area of responsibility overlaps the EMBA.	Yes

	Kingsford, Morgantown, North Plantations, South Carnarvon, South Plantations.		
Town of Port Hedland	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Cooke Point, Port Hedland, Pretty Pool, Redbank, South Hedland, Wedgefield and Yandeyarra.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Town of Port Hedland's area of responsibility overlaps the EMBA.	Yes
Shire of Wyndham-East Kimberley	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Crossing Falls, Kalumburu, Kununurra, Lake Argyle, Lakeside, Packsaddle, Wyndam	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Wyndham-East Kimberley's area of responsibility overlaps the revised EMBA.	Yes
Shire of Derby/West Kimberley	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Derby, Fitzroy Crossing and Camballin	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Derby/West Kimberley's area of responsibility overlaps the revised EMBA.	Yes
Shire of East Pilbara	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Jigalong, Kiwirrkurra, Kunawarritji, Marble Bar, Newman, Nullagine, Pamgurr, Punmu, Warralong	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of East Pilbara's area of responsibility overlaps the EMBA.	Yes
Shire of Broome	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Mile, Bilingurr, Broome, Cable Beach, Cape Leveque, Coconut Well, Djugun, Lombadina, Minyirr, Morell Park, Skuthorpe	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Broome's area of responsibility overlaps the EMBA.	Yes
Shire of Shark Bay	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Billabong, Denham, Monkey Mia, Nanga, Overlander, Useless Loop	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations.	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

		The Shire of Shark Bay's area of responsibility overlaps the EMBA.	
City of Greater Geraldton	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Ardingly, Beachlands Beatty, Beresford, Bluff Point, Bootenal, Bringo, Burma Road, Cape Burney, Casuarina, Deepdale, Devils Creek, Drummond Cove, East Chapman, Ellendale, Eradu, Eradu South, Forrester Park, Georgina, Geraldton, Glenfield, Greenough, Indarra, Karloo, Kockatea, Kojarena, Mahomets Flats, Mendel, Meru, Minnenooka, Moonyoonooka, Moresby, Mullewa, Mt Hill, Mt Tarcoola, Narngulu, Northern Gully, Pindar, Rangeway, Rudds Gully, Sandsprings, South Greenough, Spalding, Strathalbyn, Sullivan, Sunset Beach, Tarcoola Beac, Tardun, Tenindewa, Tilbradden, Utakarra, Waggrakine, Walkaway, Wandina, Webberton, West End, Wicherina, Wicherina South, Wilroy, Wongoondy, Wonthella, Woorree.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Greater Geraldton's area of responsibility overlaps the EMBA.	Yes
Shire of Augusta Margaret River	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Augusta, East Augusta, Molloy Island, Prevelly, Witchcliffe, Burnside, Cowaramup, Gracetown, Forest Grove, Leeuwin, Osmington, Karridale, Kudardup, Bramley, Rosa Glen, Margaret River, Redgate, Baudin, Rosa Brook, Boranup, Warner Glen, Deepdene, Scott River, Hamelin Bay, Alexandra Bridge, Treeton, Gnarabup, Courtenay, Nillup.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Augusta Margaret River's area of responsibility overlaps the EMBA.	Yes
Shire of Chapman Valley	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Buller, Oakajee,	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations.	Yes

	Howatharra, Nabawa, Nanson, Naraling, White Peak, Yetna, Yuna.	The Shire of Chapman Valley's area of responsibility overlaps the revised EMBA.	
Shire of Dandaragan	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Badgingarra, Cervantes, Dandaragan, Jurien Bay, Regans Ford.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Dandaragan's area of responsibility overlaps the EMBA.	Yes
Shire of Gingin	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Gingin, Gingin Rural/Industrial Estate, Guilderton, Honeycomb Estate, Lancelin, Ledge Point, Marchmont Estate, Moondah Ridge, Ocean Farm, Redfield Park, Seabird, Seaview Park, Sunset Estate, Sovereign Hill, Woodridge.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Gingin's area of responsibility overlaps the EMBA.	Yes
Shire of Northampton	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Ajana, Binnu, Horrocks Beach, Isseka, Kalbarri, Northampton, Port Gregory.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Northampton's area of responsibility overlaps the EMBA.	Yes
Shire of Christmas Island	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Drumsite, Kampong, Poon Saan, Settlement, Silver City, Taman Sweetland.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Christmas Island's area of responsibility overlaps the EMBA.	Yes
City of Albany	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Albany, Bakers Junction, Bayonet Head, Big Grove, Bornholm, Cape Riche, Centennial Park, Cheynes, Collingwood Heights, Collingwood Park, Cuthbert, Drome, Elleker, Emu Point, Frenchman Bay, Gledhow, Gnowellen, Green Range, Green Valley, Hunwick, Kalgan, King River, Kojaneerup South,	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Albany's area of responsibility does not overlap the revised EMBA. Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult City of Albany based on overlap with the initial EMBA.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Kronkup, Lange, Little Grove, Lockyer, Lower King, Lowlands, Manypeaks; Marbelup, McKail, Middleton Beach, Millbrook, Milpara, Mindijup, Mira Mar, Mount Clarence, Mount Elphinstone, Mount Melville, Nanarup, Napier, Nullaki, Orana, Palmdale, Port Albany, Redmond, Redmond, Robinson, Sandpatch, Seppings, SouthNational Anzac Centre, Amazing AlbanyStirling, Spencer Park, Torbay,Torndirrup, Vancouver Peninsula, Walmsley, Warrenup, Wellstead, West Cape Howe,Willyung, Yakamia, Youngs Siding.		
City of Bunbury	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Bunbury, Carey Park, College Grove, Crosslands, East Bunbury, Glen Iris, Glen Padden, Grand Canals, Kinkella, Mangles, Mindalong, Mindalong Heights, Pelican Point, Picton, Rathmines, Sandridge Park, South Bunbury, Tuart Brook, Usher, Vittoria Heights, Withers, Wollaston.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Bunbury's area of responsibility does not overlap the EMBA. Woodside contacted City of Bunbury, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
City of Busselton	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Abba River, Abbey, Acton Park, Ambergate, Anniebrook, Boallia, Bovell, Broadwater, Busselton, Carburnup River, Chapman Hill, Dunsborough, Eagle Bay, Geographe, Hithergreen, Jarrahwood, Jindong, Kalgup, Kaloopup, Kealy, Ludlow, Marybrook, Metricup, Naturaliste, North Jindong, Quedjinup, Quindalup, Reinscourt, Ruabon, Sabina River, Siesta Park, Tutunup, Vasse, Walsall, West Busselton, Wilyabrup, Wonnerup, Yallingup, Yallingup Siding, Yalyalup, Yelverton, Yoganup, Yoongarillup.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Busselton's area of responsibility overlaps the EMBA.	Yes

Town of Cambridge	Local government governed by the Local Government Act 1995 representing the suburbs and localities of City Beach, Floreat, Wembley, West Leederville, parts of Daglish, Shenton Park, Subiaco, Jolimont, Mt Claremont, Wembley Downs.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Town of Cambridge's area of responsibility does not overlap the revised EMBA. Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult Town of Cambridge based on overlap with the initial EMBA.	No
Shire of Capel	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Boyanup, Capel, Capel River, Dalyellup, Elgin, Forrest Beach, Gelorup, Gwindinup, Ludlow, North Boyanup, Peppermint Grove Beach, The Plains, Stirling Estate, Stratham.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Capel's area of responsibility does not overlap the EMBA. Woodside contacted Shire of Capel, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Shire of Carnamah	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Carnamah and Eneabba.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Carnamah area of responsibility overlaps the EMBA.	Yes
City of Cockburn	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Atwell, Aubin Grove, Banjup, Beeliar, Bibra Lake, Cockburn Central, Coogee, Coolbellup, Hamilton Hill, Hammond Park, Henderson, Jandakot, Lake Coogee, Leeming, Munster, North Coogee, North Lake, South Lake, Spearwood, Success, Treeby, Wattleup, Yangebup.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Cockburn's area of responsibility overlaps the EMBA.	Yes
Shire of Cocos (Keeling) Islands	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Home Island and West Island.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations.	No

		The Shire of Cocos (Keeling) Islands' area of responsibility does not overlap the EMBA. Woodside contacted Shire of Cocos (Keeling) Islands, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	
Shire of Coorow	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Coorow, Eganu, Green Head, Gunyidi, Leeman, Marchagee, Waddy Forrest, Warradarge.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Coorow's area of responsibility overlaps the EMBA.	Yes
Shire of Denmark	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Bow Bridge, Denmark, Hay, Hazelvale, Kentdale, Kordabup, Mount Lindsay, Mount Romance, Nornalup, Ocean Beach, Parryville, Peaceful Bay, Scotsdale, Shadforth, Tingleddale, Trent, William Bay.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Denmark's area of responsibility does not overlap the revised EMBA. Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult Shire of Denmark based on overlap with the initial EMBA.	No
Town of Cottesloe	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Cottesloe.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Town of Cottesloe's area of responsibility does not overlap the EMBA. Woodside contacted Town of Cottesloe, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Shire of Dundas	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Balladonia, Caiguna, Cocklebidy, Eucla, Fraser Range, Madura Pass, Mundrabilla, Norseman.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Dundas's area of responsibility does not overlap the EMBA. Woodside contacted Shire of Dundas, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No

Shire of Esperance	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Bandy Creek, Beaumont, Cascade, Castletown, Chadwick, Condingup, Coomalbidgup, Dalyup, Esperance, Gibson, Grass Patch, Nulsen, Pink Lake, Salmon Gums, Scaddan, Sinclair, West Beach, Windabout.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Esperance's area of responsibility does not overlap the revised EMBA. Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult Shire of Esperance based on overlap with the initial EMBA.	No
City of Fremantle	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Fremantle, North Fremantle, South Fremantle, White Gum Valley, Beaconsfield, Hilton, O'Connor, Samson.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Fremantle's area of responsibility does not overlap the EMBA. Woodside contacted City of Fremantle, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Shire of Harvey	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Australind, Beela, Bengier, Binningup, Brunswick, Cookernup, Harvey, Hoffman, Leschenault, Mornington, Myalup, Parkfield, Roelands, Uduc, Warawarrup, Wellesley, Wokalup, Yarloop.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Harvey's area of responsibility overlaps the revised EMBA.	Yes
Shire of Irwin	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Allanooka, Arrowsmith, Bookara, Bonniefield, Dongara, Irwin, Port Denison, Milo, Mt Adams, Mt Horner, Springfield, Yardarino.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Irwin's area of responsibility overlaps the EMBA.	Yes
Shire of Jerramungup	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Boxwood Hill, Bremer Bay, Gairdner, Jacup, Jerramungup, Needilup.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Jerramungup's area of responsibility does not overlap the EMBA.	No

		Woodside contacted Shire of Jerramungup, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	
City of Joondalup	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Beldon, Burns Beach, Connolly, Craigie, Currambine, Duncraig, Edgewater, Greenwood, Heathridge, Hillarys, Illuka, Joondalup, Kallaroo, Kingsley, Kinross, Marmion, Mullaloo, Ocean Reef, Padbury, Sorrento, Warwick, Woodvale (part).	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Joondalup's area of responsibility overlaps the EMBA.	Yes
City of Mandurah	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Bouvard, Clifton, Coodanup, Dawesville, Dudley Park, Erskine, Falcon, Greenfields, Halls Head, Herron, Lakelands, Madora Bay, Mandurah, Meadow Springs, Parklands, San Remo, Silver Sand, Wannanup.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Mandurah's area of responsibility overlaps the EMBA.	Yes
City of Kwinana	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Anketell, Bertram, Calista, Casuarina, Hope Valley, Kwinana, Kwinana Beach, Leda, Mandogalup, Medina, Naval Base, Orelia, Parmelia, Postans, The Spectacles, Wandii, Wellard.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Kwinana's area of responsibility does not overlap the EMBA. Woodside contacted Shire of Kwinana, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Shire of Manjimup	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Manjimup, Balbarup, Deanmill, Diamond Tree, Dingup, Dixvale, Glenoran, Jardee, Lake Muir, Linfarne, Middlesex, Mordalup, Palgarup, Perup, Quinninup, Ringbark, Smithbrook, Upper Warren, Wilgarrup, Yanmah, Boorara Brook, Crowea, Meerup, Northcliffe, Shannon, Windy Harbour, Broke, North	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Manjimup's area of responsibility overlaps the EMBA.	Yes

	Walpole, Walpole, Beedelup, Callcup, Channybearup, Collins, Eastbrook, Pemberton, Yeagarup.		
Town of Mosman Park	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Mosman Park.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Town of Mosman Park's area of responsibility does not overlap the EMBA. Woodside contacted Town of Mosman Park, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Shire of Nannup	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Barrabup, Bidellia, Carlotta, Cundinup, Darradup, Donnelly River, East Nannup, Jalbarragup, Lake Jasper, Nannup, Nannup Brook, Peerabeelup, Scott River, Scott River East.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Nannup's area of responsibility does not overlap the revised EMBA. Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult Shire of Nannup based on overlap with the initial EMBA.	No
City of Nedlands	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Dalkeith, Karrakatta, Mt Claremont (part), Nedlands (part), parts of Floreat, Shenton Park, Swanbourne.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Nedlands' area of responsibility does not overlap the revised EMBA. Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult City of Nedlands based on overlap with the initial EMBA.	No
City of Rockingham	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Baldivis, Cooloongup, East Rockingham, Golden Bay, Hillman, Karnup, Peron, Port Kennedy, Rockingham, Safety Bay, Secret Harbour, Shoalwater, Singleton, Waikiki, Wanbro.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Rockingham's area of responsibility overlaps the EMBA.	Yes

Shire of Ravensthorpe	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Fitzgerald, Hopetoun, Jerdacuttup, Munglinup, Ravensthorpe.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Ravensthorpe's area of responsibility does not overlap the revised EMBA. Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult Shire of Ravensthorpe based on overlap with the initial EMBA.	No
City of Stirling	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Balcatta, Balga, Carine, Churchlands, Coolbinia (part), Dianella (part), Doubleview, Glendalough (part), Gwelup, Hamersley, Herdsman, Inglewood, Innaloo, North Beach, Osborne Park, Scarborough, Stirling, Trigg, Tuart Hill, Watermans Bay, Wembley (part), Wembley Downs (part), Westminster, Woodlands, Yokine.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Stirling's area of responsibility does not overlap the revised EMBA. Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult City of Stirling based on overlap with the initial EMBA.	No
City of Wanneroo	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Alexander Heights, Alkimos, Ashby, Banksia Grove, Butler, Carabooda, Carramar, Clarkson, Darch, Eglinton, Girrawheen, Gnangara (part), Hocking, Jandabup, Jindalee, Koondoola, Landsdale, Madeley, Marangaroo, Mariginiup, Merriwa, Mindarie, Neerabup, Nowergup, Pearsall, Pinjar, Quinns Rocks, Ridgewood, Sinagra, Tamala Park, Tapping, Two Rocks, Wangara, Wanneroo, Woodvale (part), Yanchep.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Wanneroo's area of responsibility overlaps the EMBA.	Yes
Shire of Waroona	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Hamel, Lake Clifton, Nanga Brook, Preston Beach, Wagerup, Waroona.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations.	Yes

		The Shire of Waroona's area of responsibility overlaps the revised EMBA.	
Exmouth Community Liaison Group (CLG)	The Exmouth CLG represents the interests of a range of local government, industry and community organisations in relation to oil and gas matters in the Exmouth region.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Members are Base Marine, Bgahwan Marine, Cape Conservation Group Inc., DBCA, Department of Defence, Department of Transport, Exmouth Bus Charter, Exmouth Chamber of Commerce and Industry, Exmouth District High School, Exmouth Freight and Logistics, Exmouth Game Fishing Club, Exmouth Tackle and Camping Supplies, Exmouth Visitors Centre, Exmouth Volunteer Marine Rescue, Fat Marine, Gascoyne Development Commission, Gun Marine Services, Ningaloo Lodge, Offshore Unlimited, Shire of Exmouth, BHP Petroleum, Santos, Community Member The Exmouth CLG's area of responsibility under its terms of reference overlaps the EMBA.	Yes
Karratha Community Liaison Group	The KLG is the recognised community group that represents the interests of a range of local government, industry and community organisations in relation to oil and gas matters in the Pilbara region.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The KLG's area of responsibility under its terms of reference does not overlap the EMBA. Members are WA Police, Karratha Health Care, Development WA, Ngarluma Yindjibarndi Foundation Ltd (NYFL)*, Department of Education, Pilbara Ports, Regional Development Australia, Pilbara Development Commission, Dampier Community Association, City of Karratha, Karratha & Districts Chamber of Commerce and Industry, Horizon Power, Murujuga Aboriginal Corporation (MAC), Department of Local Government, Sport and Cultural Industries <i>*NYFL and MAC were consulted directly as described above.</i> Under regulation 25(1)(e), Woodside, at its discretion, chose to assess the KLG as a relevant person.	Yes

Onslow Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Onslow and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Onslow Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Port Hedland Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Port Hedland and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Port Hedland Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Carnarvon Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Carnarvon and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Carnarvon Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Karratha and Districts Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Karratha and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Karratha and Districts Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Exmouth Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Exmouth and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Exmouth Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes

East Kimberley Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of East Kimberley and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The East Kimberley Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities, based on the revised EMBA.	Yes
Derby Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Derby and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Derby Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities, based on the revised EMBA.	Yes
Broome Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Broome and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Broome Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Mid West Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Geraldton and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Mid West Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Margaret River Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Margaret River and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Margaret River Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes

Jurien Bay Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Jurien Bay and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Jurien Bay Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Lancelin Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Lancelin and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Lancelin Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Albany Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Albany and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Based on the revised EMBA, the Albany Chamber of Commerce and Industry's interests do not have the potential to be impacted by the proposed activities. Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult Albany Chamber of Commerce and Industry based on overlap with the initial EMBA.	No
Bunbury Geographe Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Bunbury and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Bunbury Geographe Chamber of Commerce and Industry's interests do not have the potential to be impacted by the proposed activities. Woodside contacted Bunbury Geographe Chamber of Commerce and Industry, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No

Busselton Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Busselton and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Busselton Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Dunsborough Yallingup Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the towns of Dunsborough and Yallingup and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Dunsborough Yallingup Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Capel Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Capel and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Capel Chamber of Commerce and Industry's interests do not have the potential to be impacted by the proposed activities. Woodside contacted Capel Chamber of Commerce and Industry, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Melville Cockburn Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Melville/Cockburn and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Melville Cockburn Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Denmark Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Denmark and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Based on the revised EMBA, the Denmark Chamber of Commerce and Industry's interests do not have the potential to be impacted by the proposed activities.	No

		Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult Denmark Chamber of Commerce and Industry based on overlap with the initial EMBA.	
Esperance Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Esperance and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Based on the revised EMBA, the Esperance Chamber of Commerce and Industry's interests do not have the potential to be impacted by the proposed activities. Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult Esperance Chamber of Commerce and Industry based on overlap with the initial EMBA.	No
Fremantle Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Fremantle and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Fremantle Chamber of Commerce and Industry's interests do not have the potential to be impacted by the proposed activities. Woodside contacted Fremantle Chamber of Commerce and Industry, in line with Section 5.3.7, as consultation was combined with consultation on a separate EP.	No
Peel Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Mandurah and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Peel Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes

Rockingham Kwinana Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the towns of Rockingham and Kwinana and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Rockingham and Kwinana Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Manjimup Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Manjimup and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Manjimup Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Nannup Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Nannup and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Based on the revised EMBA, the Nannup Chamber of Commerce and Industry's interests do not have the potential to be impacted by the proposed activities. Nevertheless, to take an inclusive approach and to consult more widely, Woodside chose to consult Nannup Chamber of Commerce and Industry based on overlap with the initial EMBA.	No
Augusta Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Augusta and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Augusta Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Christmas Island Business Association	Represents the interests of Christmas Island's business community.	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under Regulation 25(1)(d) of the Environment Regulations. The Christmas Island Business Association's interests have the potential to be impacted by the proposed activities.	Yes

Indian Ocean Territories Regional Development Organisation	Responsible for supporting the economic development of Christmas Island.	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under Regulation 25(1)(d) of the Environment Regulations. The Indian Ocean Territories Regional Development Organisation's interests have the potential to be impacted by the proposed activities.	Yes
Shark Bay Community Resource Centre	Not-for-profit, community owned and managed organisation which produces a monthly community newspaper.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Shark Bay Community Resource Centre as a potentially relevant person. Woodside chose to contact Shark Bay Community Resource Centre at its discretion in line with Section 5.3.7.	No
RAC Monkey Mia Dolphin Resort	Accommodation provider within the Shark Bay World Heritage Area.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified RAC Monkey Mia Dolphin Resort as a potentially relevant person. Woodside chose to contact RAC Monkey Mia Dolphin Resort at its discretion in line with Section 5.3.7.	No
Dirk Hartog Island	Tourism business operating accommodation and guided tours and providing four-wheel drive access to Dirk Hartog Island.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Dirk Hartog Island as a potentially relevant person. Woodside chose to contact Dirk Hartog Island at its discretion in line with Section 5.3.7.	No
Shark Bay Aviation	Shark Bay-based business offering air services across the Gascoyne, Pilbara, Murchison and Kimberley regions	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Shark Bay Aviation as a potentially relevant person.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

		Woodside chose to contact Shark Bay Aviation at its discretion in line with Section 5.3.7.	
Naturetime Tours	Shark Bay-based tour company offering four-wheel drive tours.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Naturetime Tours as a potentially relevant person. Woodside chose to contact Naturetime Tours at its discretion in line with Section 5.3.7.	No
Wula Gura Nyinda Eco Cultural Tours	Shark Bay-based tour company offering tours and Indigenous experiences.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Wula Gura Nyinda Eco Cultural Tours as a potentially relevant person. Woodside chose to contact Wula Gura Nyinda Eco Cultural Tours at its discretion in line with Section 5.3.7.	No
Shark Bay Coastal Tours	Shark Bay-based tour company specialising in four-wheel drive tours.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Shark Bay Coastal Tours as a potentially relevant person. Woodside chose to contact Shark Bay Coastal Tours at its discretion in line with Section 5.3.7.	No
[Individual 1]	Former State Member for North West Central	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified [Individual 1] as a potentially relevant person.	No

		Woodside chose to contact [Individual 1] at its discretion in line with Section 5.3.7.	
Malay Association of Christmas Island (MACI)	Incorporated association responsible for promoting Malay culture and heritage on Christmas Island and advocating on issues relating to the island in general.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The MACI is an incorporated association whose objects are to maintain and promote Malay culture and heritage on Christmas Island as well to advocate on issues relating to the opportunity and prosperity for Malay residents and the island in general. Woodside contacted MACI at its discretion in line with Section 5.3.7	No
Other non-government groups or organisations			
350 Australia (350A)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations to determine 350A's relevance for the proposed activity. Woodside has assessed that 350A's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2). Woodside chose to contact 350A at its discretion in line with Section 5.3.7.	No
Greenpeace Australia Pacific (GAP)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Woodside has assessed that GAP's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2). Woodside chose to contact GAP at its discretion in line with Section 5.3.7.	No

Australian Conservation Foundation (ACF)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Woodside has assessed that ACF's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2). Woodside chose to contact ACF at its discretion in line with Section 5.3.7.	No
Australian Marine Conservation Society (AMCS)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Woodside has assessed that AMCS's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2). Woodside chose to contact AMCS at its discretion in line with Section 5.3.7.	No
Conservation Council of Western Australia (CCWA)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Woodside has assessed that CCWA's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2). Woodside chose to contact CCWA at its discretion in line with Section 5.3.7.	No
Sea Shepherd Australia (SSA)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Woodside has assessed that SSA's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2). Woodside chose to contact SSA at its discretion in line with Section 5.3.7.	No

Environs Kimberley	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Woodside has assessed that Environs Kimberley's public website material does not demonstrate an interest with the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.2). Woodside chose to contact Environs Kimberley at its discretion in line with Section 5.3.7.	No
Research institutes and local conservation groups or organisations			
Cape Conservation Group (CCG)	Local conservation group focused on protecting the terrestrial and marine environment of the North West Cape	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. CCG's conservation activities have the potential to intersect with the EMBA as the EMBA overlaps North West Cape.	Yes
Protect Ningaloo	Local conservation group focused on protecting the Exmouth Gulf and Ningaloo Reef and Cape Range	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Protect Ningaloo's conservation activities have the potential to intersect with the EMBA as the EMBA overlaps North West Cape and Ningaloo Reef.	Yes
University of Western Australia (UWA)	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There is no known research being undertaken by the UWA that intersects within the EMBA. Woodside chose to contact UWA at its discretion in line with Section 5.3.7.	No
Western Australia Marine Science Institution (WAMSI)	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There is no known research being undertaken by WAMSI that intersects within the EMBA.	No

		Woodside chose to contact WAMSI at its discretion in line with Section 5.3.7.	
Australian Institute of Marine Science (AIMS)	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There is no known research being undertaken by AIMS that intersects within the EMBA. Woodside chose to contact AIMS at its discretion in line with Section 5.3.7.	No
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There is no known research being undertaken by the CSIRO that intersects within the EMBA. Woodside chose to contact CSIRO at its discretion in line with Section 5.3.7.	No
Other			
Save Our Songlines and/ or [Individual 2] and/ or [Individual 3]	Non-government organisation	Woodside has applied its methodology for 'Traditional Custodians and nominated representative corporations' and 'Other non-government groups or organisations' under regulation 25(1)(d) to determine Save Our Songlines' (SOS) and/ or [Individual 2] and/ or [Individual 3] relevance for the proposed activity. Save Our Songlines' and/ or [Individual 2] and/ or [Individual 3] stated interest is to stop or pause Scarborough gas and to stop new industry on the Burrup; and oppose planned expansion of the Burrup Hub industry by Woodside, Perdaman and Yara. In addition, their stated interests also include the protection of Murujuga rock art. This scope of the activity under this EP does not fall within their stated interests (see Section 6.6 in the EP).	No

Consultation Activities

Pyrenees Facility Operations EP Consultation Activities

Woodside has been conducting extensive consultation with relevant persons and other parties for this EP since September 2023 when consultation commenced with interested and affected stakeholders as part of a planned, integrated and consistent approach to stakeholder engagement for Woodside's proposed opportunities. A broad consultation process has been undertaken with relevant persons for the Pyrenees Facility Operations EP. Consultation aims to be inclusive, transparent, voluntary, respectful and two-way. Consultation was undertaken by email, letter, phone call and/or meeting.

Discharging Regulation 25 of the Environment Regulations

Woodside advertised the planned activities proposed for this EP in national, state and relevant local newspapers (see Record of Consultation, reference 5.1). Regional newspapers do not require subscription and are available (and in some cases delivered) directly to households. All communities within or adjacent to the EMBA had access to this information via this media. No direct comments or feedback were received from the advertisements.

Newspaper	Coverage	Publication dates
The Australian	National	13 September 2023
The West Australian	Regional (WA)	13 September 2023
The NT News	Regional (NT)	13 September 2023
Pilbara News	Local (WA)	13 September 2023
Midwest Times	Local (WA)	13 September 2023
North West Telegraph	Local (WA)	13 September 2023
Manjimup-Bridgetown Times	Local (WA)	13 September 2023
Kalgoorlie Miner	Local (WA)	13 September 2023
Broome Advertiser	Local (WA)	14 September 2023
South Western Times	Local (WA)	14 September 2023
Kimberley Echo	Local (WA)	14 September 2023
Albany Advertiser	Local (WA)	14 September 2023
Countryman	Local (WA)	14 September 2023
Narrogin Advertiser	Local (WA)	14 September 2023
Great Southern Herald	Local (WA)	14 September 2023
Harvey Waroona Reporter	Local (WA)	14 September 2023
Augusta Margaret River Times	Local (WA)	15 September 2023

Busselton Dunsborough Times	Local (WA)	15 September 2023
Geraldton Guardian	Local (WA)	15 September 2023
Koori Mail	Indigenous	20 September 2023
National Indigenous Times	Indigenous	26 September 2023

- A Consultation Information Sheet was provided to relevant persons and persons Woodside chose to contact (see Section 5.3.7), which included details such as an activity overview, maps, a summary of key risks and/or impacts and management measures (Record of Consultation, references 1.1 and 3.1).
- Since the commencement of the initial consultation period (September 2023), the stakeholder Consultation Information Sheet (Record of Consultation, reference 1.1, superseded by Record of Consultation, reference 3.1) has been available on Woodside's website. The Woodside Consultation Information Sheets include a toll-free 1800 phone number and Woodside's feedback email address (feedback@woodside.com.au).
- Additional targeted information was provided to relevant marine users including AHO and AMSA – Marine Safety (Record of Consultation, references 1.14 and 3.10). This information included maps and additional information relevant to the specific category of persons.
- Where appropriate, Woodside conducted phone calls and meetings with relevant persons.
- Where appropriate, targeted follow-up emails were sent to relevant persons who had not provided a response prior to the close of the target feedback period.
- Woodside considered relevant person responses and assessed the merits and relevance of objections and claims about the potential adverse impact of the proposed activity set out in the EP, in accordance with the intended outcome of consultation (see Section 5.2).
- Consultation activities undertaken with relevant persons are summarised at Appendix F, Table 2.
- Engagement undertaken with persons or organisations Woodside assessed as not relevant but chose to contact (see Section 5.3.7) or self-identified and Woodside assessed as not relevant are summarised at Appendix F, Table 3.

Social media

- In September 2023, Woodside commenced a sponsored social media campaign (Record of Consultation, reference 3.2) geotargeting local government authorities in Perth metropolitan area, regional areas in the north of WA and regional areas in the south of WA, which are within or coastally adjacent to the EMBA for the proposed activities.

The campaign had a reach of more than 1.3 million and brought the proposed activity to the attention of persons who may be interested, and advised persons or organisations on how they can find out more about Woodside's proposed activities by visiting Woodside's website.

Platform	Geotargeted Reach	Post Dates	Impact
Facebook and Instagram	Perth Metro: Users 18+ within 80km	13 September 2023 – 11 October 2023	Reach: 1,146,919 Frequency: 4.42 Impressions: 5,071,662 Clicks: 4780 Click Through Rates%: 0.09
Facebook and Instagram	Regional – North: Users 18+ located within 80km of key coastline towns plus Christmas and Cocos (Keeling) Islands	13 September 2023 – 11 October 2023	Reach: 295,721 Frequency: 3.19 Impressions: 942,344 Clicks: 1153 Click Through Rates%: 0.12
Facebook and Instagram	Regional – South: Users 18+ located within 80km of key coastline towns.	13 September 2023 – 11 October 2023	Reach: 226,182 Frequency: 4.46 Impressions: 1,007,884 Clicks: 1134 Click Through Rates%: 0.11

Community engagement

Woodside has held a number of Community Information Sessions where this EP's Consultation Information Sheets were available and discussed. See tables in Record of Consultation, References 5.3 and 5.4.

Date (2023)	Location	Event (if applicable)
18, 19 and 20 September 2023	Karratha, Port Hedland and Roebourne	Community Consultation Roadshow
10 and 11 October 2023	Karratha	Pilbara Summit 2023
16 and 17 October 2023	Carnarvon and Denham	Community Consultation Roadshow
23 October 2023	Exmouth	Community Consultation Roadshow
4 November 2023	Dampier	Dampier Beachside Twilight Markets
24 March 2024	Dampier	Dampier Beachside Markets
19 May 2024	Exmouth	Exmouth Community Markets
15 June 2024	Karratha	WA Day Festival
26-27 June 2024	Karratha	Pilbara Summit

26 July 2024	Karratha	Community Pop-Up
3-4 August 2024	Karratha	FeNaCING Festival
26-28 August 2024	Karratha	Developing Northern Australia Conference
12 October 2024	Dampier	Dampier Beachside Markets
2 November 2024	Dampier	Dampier Beachside Markets
14 November 2024	Exmouth	Community Information Session
18 March 2025	Karratha	Who's Who in the Hood
6 April 2025	Dampier	Dampier Beachside Markets
15 June 2025	Dampier	Dampier Beachside Markets
28 June 2025	Exmouth	Ningaloo Sky Festival
5 October 2025	Exmouth	Exmouth Community Markets

Community Liaison Group engagement

The Exmouth and Karratha Community Liaison Groups (CLGs) represent the interests of a range of local government, industry and community organisations in relation to oil and gas matters in the Exmouth and Karratha region. Woodside regularly meets with the two CLGs to discuss a range of issues including consultation of specific EPs. For this EP, see **Table 2** for a summary of consultation with Karratha and Exmouth CLGs.

Newsletters

Woodside's EP focussed newsletter *Let's Talk* is designed to reach existing and potential stakeholders and encourage self-identification about Woodside's EP-related activities. The newsletter provides quarterly updates about EP consultation activities, case studies on effective consultation with relevant persons and other EP related information such as forthcoming events where Woodside personnel will be consulting with the local community. *Let's Talk* is distributed in a variety of locations as well as across digital platforms including Woodside's website and social media channels. People can also subscribe to receive it on Woodside's website. (Record of Consultation, reference 5.5).

Traditional Custodian Specific Consultation

In addition to the approaches above including community information sessions, additional activities were undertaken with relevant Traditional Custodians, which were specifically designed to provide for effective engagement with Traditional Custodians and so that information was provided in a form that was readily accessible and appropriate (see Section 5.5.4 in the EP).

Consultation undertaken specifically with Traditional Custodians for this EP includes direct engagement with nominated representative bodies via the contact listed on the Office of the Registrar of Indigenous Corporations (ORIC) website, requesting advice on how they would

like to be engaged and asking whether other members and/or individuals should be consulted. This has resulted in:

- Direct engagement with nominated representative bodies via the contact listed on the ORIC website, requesting advice on how they would like to be engaged and asking whether other members and/or individuals should be consulted.
- Meetings with directors, Elders and any nominated representatives, on country or in Perth.
- Requests and offers of resourcing to enable and support consultation.
- Exchange of written feedback and correspondence.
- A Summary Consultation Information Sheet, developed and reviewed by Indigenous representatives in collaboration with technical experts to ensure content is appropriate for the intended recipients, was provided to relevant Traditional Custodian groups (Record of Consultation, reference 1.2) and phone calls to provide context to the consultation were made.

Ongoing efforts were made to engage and develop relationships with these bodies via a variety of means such as email, phone calls, alternative contacts, texts, social media and in some cases physical visits.

Consultation meetings with attendees decided by Traditional Custodian groups, supported by senior Woodside representatives, subject matter experts, First Nations Relations advisers with skills and experience in community engagement. Meetings are developed through a two-way consultation process to ensure effective information sharing via:

- Mutually agreed agenda avoiding time pressure.
- Encouraging Traditional Custodian attendees to control the pace of the meeting and pause at any time to ask questions, seek clarification or provide feedback.
- Visual aids such as posters, presentations, simplified technical videos and real-world pictures and footage.
- Emphasis on potential planned and unplanned risks and impacts of the activity.
- Ample opportunity for questions and feedback.
- Discussion about ongoing relationship development and opportunities.
- Distribution of hard-copy Consultation Information Sheets (Record of Consultation, reference 1.1) and Summary Information Sheets (Record of Consultation, reference 1.2)
- Meeting all costs such as sitting fees, travel, legal support and executive support and other support required.
- Advertising in Indigenous publications such as the Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) (Record of Consultation, reference 5.1.20 and 5.1.21).

Newspaper	Coverage	Publication dates
Koori Mail	Indigenous	20 September 2023
National Indigenous Times	Indigenous	26 September 2023

Woodside has a geotargeted sponsored social media campaign (Record of Consultation, reference 5.2) to various communities that are coastally adjacent to the EMBA for the proposed activities.

The wide-reaching campaign brought the proposed activity to the attention of persons who may be interested and advised persons or organisations how they can find out about Woodside's proposed activities by visiting Woodside's website, which details the intent of consultation with relevant persons under the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth)*. The campaign reached around 1,369,350 people and was viewed more than 7 million times across various regions as shown in Record of Consultation, reference 5.2.

These social media posts were developed with input from Indigenous representatives. Social media is a highly effective means to engage Indigenous audiences as outlined in Indigenous Digital Life (Professor Carlson, 2021). Advertisements used language and information appropriate to Indigenous audiences. Feedback from community engagements indicates a high level of penetration for this technique.

Woodside has employed a diverse range of techniques to allow relevant persons to become aware of the proposed activity and how it may affect their functions, activities or interests, and to understand their ability to provide feedback. The combination of PBC engagement meetings, traditional print media, social media and face-to face community interaction was designed with input from Indigenous representatives and adapted to the audience, so that it provides a wide-ranging opportunity to consult.

Consultation update (February/March 2025)

As a result of the revised modelling, the EMBA for this activity has been revised, and now extends into Northern Territory waters.

Woodside identified a number of relevant persons who were potentially impacted by the change to the EMBA and provided a consultation update to these relevant persons which included:

- Government departments, where the changes to the EMBA were potentially relevant to their functions, interests or activities, including record keeping and emergency response preparedness.
- Stakeholders who were previously consulted at Woodside's discretion as part of combined consultation with another EP, but who are now assessed as relevant persons for this EP.

Woodside also chose to contact a number of persons and organisations who were previously consulted at Woodside's discretion as part of combined consultation with another EP, and who continue to be assessed as not relevant based on the revised EMBA.

These relevant persons, and persons not assessed as relevant but whom Woodside chose to contact, were provided with an additional 30-day period to provide feedback. Woodside also sent a follow-up email reminding these stakeholders of the opportunity to provide feedback.

Based on the revised EMBA, Woodside also identified a number of persons and organisations who had not previously been consulted for this EP. Woodside has consulted these persons and organisations in accordance with regulation 25 of the Environment Regulations and the summary of that consultation is set out in **Appendix F, Table 2 and Table 3**.

Table 2: Consultation Report with Relevant Persons or Organisations

The black numbering in the **Summary of information provided and record of consultation for this EP** section in Table 2 denotes an item raised by a relevant person. The green numbering denotes Woodside's response to that item.

Commonwealth and State Government Departments or Agencies – Marine

Australian Border Force (ABF)

Summary of information provided and record of consultation for this EP: - On 13 September 2023, Woodside emailed ABF advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 16 October 2023, Woodside sent a reminder email to ABF following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website. - On 20 February 2025, Woodside emailed ABF a consultation update on this EP (Record of Consultation, reference 3.17). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with ABF. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA. - On 11 March 2025, Woodside sent a reminder email to ABF following up on the proposed activity (Record of Consultation, reference 4.3). Woodside included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has addressed maritime security-related issues in Section 6 of the EP based on previous offshore activities. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with ABF for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:		

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation information provided to ABF on 13 September 2023 and 20 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent follow-up emails seeking feedback on the proposed activities.
- Woodside has provided ABF with the opportunity to provide feedback over a 28-month period.

Department of Foreign Affairs and Trade (DFAT)

Summary of information provided and record of consultation for this EP:

- On 13 September 2023, Woodside emailed DFAT advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to DFAT following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 18 February 2025, Woodside emailed DFAT a consultation update on this EP (Record of Consultation, reference 3.9). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DFAT. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 11 March 2025, Woodside sent a reminder email to DFAT following up on the proposed activity (Record of Consultation, reference 4.2). Woodside included a link to the Consultation Information Sheet on Woodside's website.
- On 14 March 2025, DFAT responded thanking Woodside for the invitation to comment (SI Report, reference 84.1). DFAT:
 - (1) Noted that as there was shoreline accumulation in Indonesia, it was recommended that Woodside consult Indonesia via its Canberra embassy.
- (1) On 20 March 2025, Woodside telephoned DFAT to seek clarification on consultation with Indonesia.
 - Woodside:
 - Noted previous advice from DFAT was that Woodside was not encouraged to contact embassies directly as DFAT preferred to manage sensitivities around engagement with other countries.

▪ Noted Woodside's oil spill response plans provided a mechanism for consultation in international waters that would be complied with, at the appropriate time, if an incident occurred. ▪ Noted the proposed activities had no planned impacts in Indonesian waters. With regards to unplanned events, DFAT had previously advised that in the case of an oil spill, AMSA was the best point of contact for Woodside. ▪ Asked if DFAT advice had changed and whether it was satisfactory for Woodside to progress EP development based on its existing international consultation model. – DFAT: ▪ Advised that consultation with Indonesia was at Woodside's discretion based on Woodside's legal and regulatory requirements. ▪ Confirmed it would revert back to Woodside with any official changes to DFAT's position on international consultation. ▪ Confirmed Woodside could continue to use its existing international consultation model unless provided with updated advice from DFAT that required changes to the approach. • On 24 March 2025, DFAT emailed Woodside (SI Report, reference 84.2) and thanked Woodside for the phone call. DFAT: – (1) Noted it had consulted internally and hadn't been able to confirm the advice regarding consultation with international governments referenced by Woodside, and asked did Woodside have further information. • On 28 March 2025, Woodside emailed DFAT in response to DFAT's query (SI Report, reference 84.3). Woodside: – (1) Noted its international consultation approach arose from a number of engagements with DFAT around April/May 2023 including a meeting in May 2023. Woodside confirmed the details of the DFAT representative at the meeting and advised the discussions had included: ▪ That DFAT preferred to manage sensitivities around engagement with other countries. ▪ That AMSA was the correct contact for Woodside in the event of a hydrocarbon release that could impact international waters. ▪ That DFAT had a bilateral desk with Indonesia and would work with the Indonesian embassy. – (1) Confirmed that following the meeting, Woodside had emailed DFAT's Indonesian branch advising of the discussions, setting out Woodside's proposed strategy for international consultation, and seeking any further feedback. Woodside attached a copy of the email thread. • On 11 April 2025, DFAT emailed Woodside (SI Report, reference 84.4) and: – (1) Confirmed the advice provided in 2023 remained current. – (2) Advised a previous email address was no longer active and confirmed the correct address to use in the event of a hydrocarbon release. • On 11 April 2025, Woodside responded thanking DFAT for its email (SI Report, reference 84.5). Woodside: – (1) Acknowledged DFAT's confirmation that its 2023 advice remained current. – (2) Confirmed it would use the updated contact details for notifications in the event of a hydrocarbon release that was likely to traverse international waters.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan

(1) Recommended Woodside consult the Indonesian Government via its embassy in Canberra due to the potential for shoreline accumulation.	(1) Woodside assessment: Based on prior engagement with DFAT, Woodside's approach to international consultation with regard to unplanned events is set out in its emergency response plans which include mechanisms for international consultation in the highly unlikely event of a hydrocarbon release. Woodside response: Woodside sought clarification from DFAT on whether the advice regarding international consultation had changed, as previously DFAT had advised that it preferred to manage engagement with other countries, and that Woodside's best contact in the event of an unplanned event was AMSA. On DFAT's confirmation that this advice remained current, Woodside thanked DFAT for the information.	(1) Woodside notes the Australian Government is signatory to international agreements with Indonesia, which address matters relating to oil spill preparedness and response. In the event of a hydrocarbon spill that is likely to traverse international waters, Woodside will notify the following government agencies as referenced in the Oil Pollution First Strike Plan (Appendix I): - Verbally notify AMSA and Western Australian departments responsible. Woodside will follow up its AMSA notification by way of an online report via AMSA's website. - Other relevant government departments as soon as practicable. These notifications include DFAT.
(2) Provided Woodside with updated contact details to use in the event of a spill.	(2) Woodside assessment: Woodside notes DFAT's updated contact details and has amended the First Strike Plan for this EP accordingly. Woodside response: Woodside confirmed it would use the updated contact details for DFAT notifications in the event of a hydrocarbon release that was likely to traverse international waters.	(2) Woodside has included the updated contact details in the Oil Pollution First Strike Plan (Appendix I).
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DFAT for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation information provided to DFAT on 13 September 2023 and 19 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent follow-up emails seeking feedback on the proposed activities.
- Woodside has provided DFAT with the opportunity to provide feedback over a 28-month period.

Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA)

Summary of information provided and record of consultation for this EP:

- On 15 December 2023, Woodside emailed DITRDCA advising of the proposed activity (Record of Consultation, reference 1.101) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 9 January 2024, Woodside sent a reminder email to DITRDCA following up on the proposed activity (Record of Consultation, reference 2.19) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DITRDCA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to DITRDCA on 15 December 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activity.
- Woodside has provided the DITRDCA with the opportunity to provide feedback over a 25-month period.

Australian Fisheries Management Authority (AFMA)

Summary of information provided and record of consultation for this EP:

- On 20 September 2023, Woodside emailed AFMA advising of the proposed activity (Record of Consultation, reference 1.34) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 10 October 2023, AFMA sent an email (SI Report, reference 1.1) to thank Woodside for the advice and:
 - (1) Advised it had no specific comments on the proposal.
 - (2) Encouraged Woodside, if it had not already done so, to engage directly with Commonwealth fishing operators in the area and included contact details for relevant industry associations.
- On 27 October 2023, Woodside responded thanking AFMA for its email (SI Report, reference 1.2). Woodside:
 - (1) Noted AFMA had no specific comments on the proposal.
 - (2) Confirmed it had provided information to relevant fishery licence holders as well as the representative organisations and fishing industry associations recommended by AFMA.
- On 17 February 2025, Woodside emailed AFMA a consultation update on this EP (Record of Consultation, reference 3.5). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with AFMA. Woodside advised the Northern Prawn Fishery was now relevant to the EMBA. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 21 February 2025, AFMA responded thanking Woodside for its email (SI Report, reference 1.3). AFMA:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- (2) Sought confirmation that Woodside had consulted the Northern Prawn Fishery.
- Noted a change to its contact information regarding environment plans.
- On 4 March 2025, Woodside responded and thanked AFMA for its feedback (SI Report, reference 1.4). Woodside:
 - (2) Confirmed it had consulted Northern Prawn Fishery licence holders directly, as well as the Northern Prawn Fishery Industry Pty Ltd.
 - Advised it had updated AFMA's preferred contact details in Woodside's database.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) AFMA advised it had no specific comments on the proposal.	(1) Woodside assessment: Woodside accepts that AFMA has no comments on the proposed activities. Woodside response: Woodside noted AFMA had no comments on the proposal.	(1) Not required.
(2) AFMA encouraged Woodside to consult directly with fishing operators who have entitlements to fish within the proposed area.	(2) Woodside assessment: Woodside has consulted relevant individual Commonwealth fishing operators as well as representative bodies of fisheries with entitlement to fish within the proposed area. Woodside response: Woodside advised it had consulted relevant individual Commonwealth fishing operators in the area, as well as representative bodies and fishing industry associations recommended by AFMA.	(2) Woodside has assessed the potential for interaction with Commonwealth managed fisheries in Section 4.10.1 of the EP.
While feedback has been received, there were no objections or claims.	Woodside has consulted AFMA, DAFF - Fisheries, CFA, Tuna Australia, ASBTIA, Northern Prawn Fishery Industry Pty and individual relevant licence holders. Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional controls or measures are required.

	Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with AFMA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation information provided to AFMA on 20 September 2023 and 17 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has addressed and responded to AFMA over a 28-month period.		

Australian Hydrographic Office (AHO)

Summary of information provided and record of consultation for this EP: • On 15 September 2023, Woodside emailed AHO advising of the proposed activity (Record of Consultation, reference 1.13) and provided a Consultation Information Sheet, shipping lanes map (Record of Consultation, reference 1.14) and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to AHO (Record of Consultation, reference 2.1) following up on the proposed activity and provided the shipping lanes map and a link to the Consultation Information Sheet on Woodside's website. • (1) On 17 October 2023, AHO provided its standard response, acknowledging receipt of Woodside's email (SI Report, reference 2.1) and noted the data would be registered, assessed, prioritised and validated in preparation for updating navigational charting products. (1) Woodside noted AHO's standard response regarding how it would use the information provided. • On 18 February 2025, Woodside emailed AHO a consultation update on this EP (Record of Consultation, reference 3.10). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with AHO. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA. Woodside also attached an updated shipping lane map (Record of Consultation, reference 3.22).
--

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 11 March 2025, Woodside sent a reminder email to AHO following up on the proposed activity (Record of Consultation, reference 4.2). Woodside included the shipping lane map and a link to the Consultation Information Sheet on Woodside's website.
- On 12 March 2024, AHO responded thanking Woodside for the invitation to comment (SI Report, reference 2.2). AHO advised:
 - (2) It had no concerns with any of the activities proposed and did not require further updates unless an activity was starting.
- On 26 March 2024, Woodside thanked AHO for its response (SI Report, reference 2.3). Woodside:
 - (2) Noted AHO had no concerns with the activity and that no further updates were required except in circumstances outlined in the reporting requirements factsheet provided by AHO.
 - Asked AHO for clarification if its position on updates could be applied across all Woodside EPs in development.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) AHO acknowledged receipt of consultation emails.	(1) Woodside assessment: Woodside noted the AHO's acknowledgement of its consultation information. Woodside response: Woodside noted AHO would use Woodside's data to update navigational charting products but had no specific feedback on the EP.	(1) Not required.
(2) No concerns with the activities proposed and no further updates required except in the circumstances outlined in AHO's reporting requirements.	(2) Woodside assessment: Woodside acknowledges the AHO has no concerns regarding the activity and does not require further updates. Woodside response: Woodside thanked AHO for its feedback and noted it had no concerns. Woodside also thanked AHO for providing information on its reporting requirements.	(2) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.

	Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of Consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with AHO for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation information provided to AHO on 15 September 2023 and 18 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has provided AHO with the opportunity to provide feedback over a 28-month period.		

Australian Maritime Safety Authority (AMSA) – Marine Safety

Summary of information provided and record of consultation for this EP: • On 15 September 2023, Woodside emailed AMSA – Marine Safety advising of the proposed activity (Record of Consultation, reference 1.13) and provided a Consultation Information Sheet, GIS shape file, shipping lanes map (Record of Consultation, reference 1.14) and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 25 September 2023, AMSA – Marine Safety thanked Woodside for its email (SI Report, reference 3.1) and: – (1) Advised that as the infrastructure was already in place, previous advice provided by AMSA remained. – (2) Reminded Woodside that vessels should exhibit appropriate lights and shapes to reflect the nature of operation. – (3) Confirmed Woodside should evaluate and implement adequate anti-collision measures. • On 10 October 2023, Woodside thanked AMSA – Marine Safety for its feedback (SI Report, reference 3.2). Woodside also: – (1) Noted that previous advice from AMSA regarding these operations remained. – (2) Confirmed vessels would exhibit appropriate lights and shapes to reflect the nature of operations and the obligation to comply with the International Rules for Preventing Collisions at Sea.
--

- (3) Advised that while Woodside did not propose to implement further anti-collision measures for this activity at this time, collision risk mitigation measures were constantly being evaluated.
- On 20 February 2025, Woodside emailed AMSA – Marine Safety a consultation update on this EP (Record of Consultation, reference 3.10). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with AMSA – Marine Safety. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA. Woodside also attached an updating shipping lane map (Record of Consultation, reference 3.22).
- On 11 March 2025, Woodside sent a reminder email to AMSA – Marine Safety following up on the proposed activity (Record of Consultation, reference 4.2). Woodside included a link to the Consultation Information Sheet on Woodside's website.
- On 11 April 2025, AMSA – Marine Safety thanked Woodside for the consultation information (SI Report, reference 3.3). AMSA apologised for the late feedback and confirmed it welcomed open communication regarding Woodside's activities. AMSA also:
 - (4) Noted it had attached two vessel traffic plots for North-West Western Australia and that some heavy vessel traffic and support craft would be encountered in the area.
 - (5) Noted the large EMBA, which meant there were more vessels to be encountered within the area.
 - (6) Requested the vessels involved notify AMSA's Response Centre 24-48 hours before operations commenced.
 - (7) Reminded Woodside that AHO should be contacted no less than four weeks before operations commenced.
 - (2) Confirmed vessels should exhibit appropriate lights and shapes and should ensure their navigation status was correctly set.
 - (3) Confirmed Woodside should evaluate and implement adequate anti-collision measures.
 - (8) Advised shipping data could be downloaded from AMSA's spatial gateway.
- On 8 May 2025, Woodside responded thanking AMSA – Marine Safety for its feedback (SI Report, reference 3.4). Woodside:
 - (4) Acknowledged the vessel traffic plots provided by AMSA and noted that some heavy vessel traffic would be active in the area.
 - (5) Noted that more vessels may be encountered in the broader EMBA for the activity.
 - (6) Confirmed it would notify the ARC 24-48 hours before activities commenced where vessels would be in Operational Area for >3 weeks.
 - (7) Confirmed it would notify AHO at least four weeks before activities where vessels would be in the Operational Area for >3 weeks.
 - (2) Confirmed vessels would exhibit appropriate lights and shapes, and would ensure their navigation status was correctly set in the AIS unit.
 - (3) Advised it did not propose to implement further anti-collision measures at this time, however collision risk mitigation measures were constantly being evaluated and implemented as required.
 - (8) Noted shipping data could be obtained from AMSA's spatial gateway.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
---	--	-------------------------------

(1) Previous advice from AMSA regarding the operations remained.	(1) Woodside assessment: Woodside accepts previous advice from AMSA regarding the operations remains relevant. Woodside response: Woodside noted that previous AMSA – Marine Safety advice regarding the operations remained relevant.	(1) Not required.
(2) Vessels should exhibit appropriate lights and shapes.	(2) Woodside assessment: Woodside complies with the International Rules for Preventing Collisions at Sea. Woodside response: Woodside confirmed vessels would exhibit appropriate lights and shapes to reflect the nature of operations and the obligation to comply with the International Rules for Preventing Collisions at Sea.	(2) The EP contains a number of controls that address AMSA's feedback on lighting and compliance with the international rule for preventing collisions at sea (see Section 6.7 of the EP).
(3) Woodside should evaluate and implement adequate anti-collision measures.	(3) Woodside assessment: Woodside is continuously evaluating existing collision risk mitigation measures. Woodside response: Woodside advised it did not propose to implement further anti-collision measures for the activity at this time, but collision risk mitigation measures were constantly being evaluated and implemented.	(3) The EP contains a number of controls that address AMSA's feedback on lighting and compliance with the international rule for preventing collisions at sea (see Section 6.7 of the EP).
(4) Provided vessel traffic plots and noted heavy traffic would be encountered in the area.	(4) Woodside assessment: Woodside acknowledges there is some heavy vessel traffic in Western Australia's North-West. Woodside response: Woodside noted AMSA's traffic plots and that some heavy vessel traffic will be active in the area.	(4) Not required.
(5)	(5)	(5)

Noted the large EMBA would mean more vessels would be encountered.	Woodside assessment: Woodside acknowledges more traffic may be encountered in the broader EMBA. Woodside response: Woodside noted the EMBA meant more vessels, mainly SOLAS, could be encountered.	Not required.
(6) Requested a notification to its ARC 24-48 hours before operations commenced.	(6) Woodside assessment: Woodside will notify the ARC as requested by AMSA. Woodside response: Woodside confirmed vessels would notify the ARC 24-48 hours before mobilisation where vessels would be in the Operational Area >3 weeks.	(6) Woodside will notify AMSA's response centre as referenced as PS 1.6 of the EP.
(7) Reminded Woodside to notify AHO no less than four weeks before operations commenced.	(7) Woodside assessment: Woodside will notify AHO as requested by AMSA. Woodside response: Woodside confirmed it would notify AHO no less than four weeks prior to activities where vessels would be in the Operational Area >3 weeks.	(7) Woodside will notify AHO as referenced as PS 1.5 of the EP.
(8) Shipping data could be obtained from AMSA's spatial gateway.	(8) Woodside assessment: Woodside acknowledges shipping data is available from AMSA's spatial gateway. Woodside response: Woodside noted shipping data could be downloaded from AMSA's spatial gateway.	(8) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with AMSA – Marine Safety for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to AMSA – Marine Safety on 15 September 2023 and 20 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has addressed and responded to AMSA – Marine Safety over a 28-month period.

Australian Maritime Safety Authority (AMSA) – Marine Pollution

Summary of information provided and record of consultation for this EP:

- On 15 September 2023, Woodside emailed AMSA – Marine Pollution advising of the proposed activity (Record of Consultation, reference 1.15) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to AMSA – Marine Pollution following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 24 June 2024, Woodside emailed AMSA – Marine Pollution (SI Report, reference 82.1) and provided a copy of the Oil Pollution First Strike Plan (Appendix I) and invited AMSA – Marine Pollution to comment on the plan.
- On 18 February 2025, Woodside emailed AMSA – Marine Pollution a consultation update on this EP (Record of Consultation, reference 3.12). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with AMSA – Marine Pollution. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 11 March 2025, Woodside sent a reminder email to AMSA – Marine Pollution following up on the proposed activity (Record of Consultation, reference 4.2). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where	Woodside and has addressed oil pollution planning and response at Appendix H.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with AMSA – Marine Pollution for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to AMSA – Marine Pollution on 15 September 2023 and 18 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent follow-up emails seeking feedback on the proposed activities. • Woodside has provided AMSA - Marine Pollution with the opportunity to provide feedback over a 28-month period.		

Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries

Summary of information provided and record of consultation for this EP: • On 15 September 2023, Woodside emailed DAFF – Fisheries advising of the proposed activity (Record of Consultation, reference 1.33) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to DAFF – Fisheries following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website. • On 17 February 2025, Woodside emailed DAFF - Fisheries a consultation update on this EP (Record of Consultation, reference 3.6). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DAFF - Fisheries. Woodside advised the Northern Prawn Fishery was now relevant to the EMBA. Woodside attached an updated consultation information sheet which included a map of the revised EMBA. • On 10 March 2025, Woodside sent a reminder email to DAFF - Fisheries following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.
--

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted AFMA, CFA, Tuna Australia, ASBTIA and individual relevant licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Vessels are required to comply with the Australian Biosecurity Act 2015, specifically the Australian Ballast Water Management Requirements (as defined under the Biosecurity Act 2015) (aligned with the International Convention for the Control and Management of Ships' Ballast Water and Sediments) to prevent introducing IMS. Vessels will be assessed and managed to prevent the introduction of invasive marine species in accordance with Woodside's Invasive Marine Species Management Plan (see Section 6.8.12 of the EP). Woodside has assessed the potential for interaction with Commonwealth managed commercial fisheries in Section 4.10.1 of the EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DAFF – Fisheries for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to DAFF - Fisheries on 15 September 2023 and 17 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure Consultation on offshore petroleum environment plans: Information for the community. • Woodside has sent follow-up emails seeking feedback on the proposed activities.		

- Woodside has provided DAFF - Fisheries with the opportunity to provide feedback over a 28-month period.

Department of Defence (DoD)

Summary of information provided and record of consultation for this EP:

- On 15 September 2023, Woodside emailed DoD advising of the proposed activity (Record of Consultation, reference 1.7) and provided a Consultation Information Sheet, defence map (Record of Consultation, reference 1.8) and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website as well as the defence map.
- On 25 October 2023, DoD sent an email thanking Woodside for the information (SI Report, reference 4.1) and provided feedback regarding:
 - (1) The location of the activity areas within an exercise area and restricted airspace.
 - (2) Unexploded ordinance (UXO) that may be present on and in the seafloor, and that Woodside must inform itself as to the risks associated with conducting activities in that area, with the Commonwealth of Australia taking no responsibility for reporting the UXO in the area, identifying or removing UXO from the area, or any loss or damage suffered or incurred by Woodside or any third party arising out of, or directly related to, UXO in the area.
 - (3) DoD's notification requirements including liaison with the Australian Hydrographic Service/Office (AHS/AHO).
- On 1 November 2023, Woodside thanked DoD for its feedback (SI Report, reference 4.2) and confirmed:
 - (1) It had noted the location of activity areas and the presence of exercise areas and restricted airspace.
 - (2) It had noted the advice regarding location, identification, removal or damage to equipment from unexploded ordinances (UXO)s.
 - (3) The Australian Hydrographic Service/Office (AHS/AHO) had been engaged for this activity and is part of the activity notification protocols.
- On 17 February 2025, Woodside emailed DoD a consultation update on this EP (Record of Consultation, reference 3.7). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DoD. Woodside attached an updated consultation information sheet which included a map of the revised EMBA. Woodside also provided an updated defence zone map (Record of Consultation, reference 3.23).
- On 10 March 2025, Woodside sent a reminder email to DoD following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website and attached the defence zone map (Record of Consultation, reference 3.23).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1)	(1)	(1)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

The location of exercise areas and restricted airspace.	Woodside assessment: Woodside is aware of the exercise area and restricted airspace. Woodside response: Woodside confirmed it had noted DoD's advice on the location of activity areas within an exercise area and restricted airspace.	Woodside has recorded the defence areas, facilities and UXOs overlapping the Operational Area and/or EMBA in Section 4.10.6 of the EP.
(2) The risk of unexploded ordnance (UXO) in the area.	(2) Woodside assessment: Woodside is aware of the risks associated with UXO in the activity area. Woodside response: Woodside confirmed it had noted the DoD's advice with respect to the risk, location, identification, removal or damage from UXO.	(2) Woodside has recorded the defence areas, facilities and UXOs overlapping the Operational Area and/or EMBA in Section 4.10.6 of the EP.
(3) The need for Woodside to continue liaison with AHO and ensure AHO is notified three weeks prior to the actual commencement of activities.	(3) Woodside assessment: Woodside recognises the need to liaise with the AHO. Woodside response: Woodside advised the AHO had been engaged by Woodside for these activities and was included in Woodside's activity notification protocols.	(3) Notifying the AHO provides DoD with information of the PAP through maritime safety information.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DoD for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:		

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to DoD on 15 September 2023 and 17 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside sent follow-up emails seeking feedback on the proposed activities.
- Woodside has addressed and responded to DoD over a 28-month period.

Department of Primary Industries and Regional Development (DPIRD)

Summary of information provided and record of consultation for this EP:

- On 22 September 2023, Woodside emailed DPIRD advising of the proposed activity (Record of Consultation, reference 1.38) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to DPIRD following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 20 February 2025, Woodside emailed DPIRD a consultation update on this EP (Record of Consultation, reference 3.15). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DPIRD. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA, and provided an update on fisheries in the EMBA.
- On 11 March 2025, Woodside sent a reminder email to DPIRD following up on the proposed activity (Record of Consultation, reference 4.3). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted DPIRD, WAFIC, and relevant individual licence holders (via WAFIC). Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where	Woodside has assessed the potential for interaction with State managed fisheries issues in Section 4.10.1 of this EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DPIRD for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation information provided to DPIRD on 22 September 2023 and 20 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside sent follow-up emails seeking feedback on the proposed activities. • Woodside has provided DPIRD with the opportunity to provide feedback over a 28-month period.		

Department of Transport (DoT) / now Department of Transport and Major Infrastructure (DTMI)

Summary of information provided and record of consultation for this EP: • On 13 September 2023, Woodside emailed DoT advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • (1) On 02 October 2023, DoT responded to Woodside's email (SI Report, reference 5.1) and asked to be consulted if there was a risk of a spill impacting State waters. • (1) On 04 October 2023, Woodside responded thanking DoT for its email (SI Report, reference 5.2) and confirming DoT would be consulted if there was a risk of a spill impacting State waters from the proposed activities. • On 24 June 2024, Woodside emailed DoT (SI Report, reference 5.3) and provided a copy of the Oil Pollution First Strike Plan (FSP) (Appendix I) for this EP and invited DoT to comment on the plan. • On 2 August 2024, DoT responded thanking Woodside for providing the Pyrenees FSP (SI Report, reference 5.4). DoT advised it had reviewed the plan and:
--

- (2) Noted Appendix F of the FSP made mention of when the CMT Liaison Officer and Deputy Incident Controller would attend the ICC, but there was no mention of the when the rest of the IMT personnel would attend.
- (3) Sought clarification of why there was mention of PPA being the control agency in Dampier Port Limits.
- On 20 August 2024, Woodside responding thanking DoT for its review (SI Report, reference 5.5). Woodside:
 - (2) Proposed an amendment which had been pre-emptively made to the latest draft of the Pyrenees FSP following previous feedback from DoT on a separate EP. The amendment noted that remaining IMT personnel would attend no later than 8am the day. Woodside noted the amendment had been made to the FSP template to ensure future FSPs were correct.
 - (3) Advised that while the Pyrenees Facility and all assessed worst-case scenarios were located outside of Port waters, modelling predicted there was potential for hydrocarbons to contact Port waters of one or more ports in the region in the event of a spill. Woodside proposed to retain this sentence but broaden it from PPA to Port Authorities.
- (2, 3) On 20 September 2024, DoT responded thanking Woodside for the clarification which addressed the comments DoT had raised (SI Report, reference 5.6).
- (2, 3) On 20 September 2024, Woodside responding thanking DoT for confirming the proposed amendments were suitable (SI Report, reference 5.7).
- On 18 February 2025, Woodside emailed DoT a consultation update on this EP (Record of Consultation, reference 3.13). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DoT. Woodside attached an updated consultation information sheet which included a map of the revised EMBA.
- On 11 March 2025, Woodside sent a reminder email to DoT following up on the proposed activity (Record of Consultation, reference 4.2). Woodside included a link to the Consultation Information Sheet on Woodside's website.
- On 5 May 2025, Woodside emailed DoT to confirm the First Strike Plan for this activity had been updated as a result of the new modelling (SI Report, reference 5.8). Woodside attached a copy of the revised FSP and invited DoT to review and provide comment. Woodside noted key changes in the revised document included changes to dispersant application, updates to the operational and scientific monitoring arrangements, and minor administration amendments.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) DoT requested to be consulted if there was a risk of a spill impacting State waters.	(1) Woodside assessment: Woodside has incorporated DoT in its hydrocarbon release response plans. Woodside response: Woodside confirmed DoT would be consulted if there was a risk of a spill impacting State waters.	(1) Woodside will consult DoT if there is a spill impacting State water from the proposed activity, as referenced in the OSPRMA (Appendix H).
(2)	(2)	(2)

IMT personnel arrangements in the event of an incident.	Woodside assessment: Woodside has updated the FSP to include full reference to IMT personnel arrangements. Woodside response: Woodside confirmed an amendment had been made to note when all IMT personnel would attend. DoT had no further concerns.	The FSP (Appendix I) has been updated with personnel movements.
(3) Clarification on control agency in Dampier Port Limits.	(3) Woodside assessment: Woodside has broadened the wording in the FSP to reference port authorities. Woodside response: Woodside noted there was potential for hydrocarbons to contact Port waters of one or more ports in the region in the event of a spill. Woodside proposed a revised version of the sentence. DoT had no further concerns.	(3) References to control agencies within port limits have been updated in the FSP (Appendix I).
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DoT for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to DoT on 13 September 2023 and 18 February 2025 based on their functions, interests or activities.		

- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has addressed and responded to DoT over a 28-month period.

Department of Planning, Lands and Heritage (DPLH)

Summary of information provided and record of consultation for this EP:

- On 13 September 2023, Woodside emailed DPLH advising of the proposed activity (Record of Consultation, reference 1.11) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to DPLH following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 18 October 2023, DPLH thanked Woodside for the opportunity to provide feedback (SI Report, reference 6.1) and:
 - (1) Confirmed it administered Crown land within the boundaries of the State of Western Australia, including coastal waters out to three nautical miles offshore.
 - (2) Recommended consultation with the Department of Biodiversity, Conservation and Attractions (DBCA), given the proximity of the proposal to Marine Reserve 2.
 - (3) Noted that due to the proposal's location outside of coastal waters, it had no further comment to make.
- On 6 November 2023, Woodside responded thanking DPLH for its feedback (SI Report, reference 6.2). Woodside:
 - (1) Noted DPLH's area of administration.
 - (2) Confirmed it had consulted DBCA for the EP.
 - (3) Acknowledged that, due to the operation's location outside of coastal waters, DPLH had no further comment.
- On 18 February 2025, Woodside emailed DPLH a consultation update on this EP (Record of Consultation, reference 3.12). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DPLH. Woodside attached an updated consultation information sheet which included a map of the revised EMBA, as well as an updated list of relevant State shipwrecks (Record of Consultation, reference 3.24).
- On 11 March 2025, Woodside sent a reminder email to DPLH following up on the proposed activity (Record of Consultation, reference 4.2). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1)	(1)	(1) Not required.

DPLH confirmed it administered Crown land in WA, including coastal waters out to three nautical miles offshore.	Woodside assessment: Woodside understands DPLH's area of administration. Woodside response: Woodside confirmed it had noted DPLH's area of administration.	
(2) Due to the proximity of the proposal to Marine Reserve 2, DPLH recommended Woodside consult the Department of Biosecurity, Conservation and Attractions (DBCA).	(2) Woodside assessment: Woodside has consulted DBCA for this EP. Woodside response: Woodside confirmed to DPLH that DBCA had also been consulted for this EP.	(2) Woodside has assessed DBCA as a relevant person for this EP (see Appendix F, Table 1) in accordance with regulation 25(1) of the Environment Regulations and consulted it alongside DPLH.
(3) DPLH advised it had no further comment given the operation's location outside coastal waters.	(3) Woodside assessment: Woodside accepted that DPLH had no comment. Woodside response: Woodside acknowledged that DPLH had no further comment on the proposal given the location.	(3) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (See Section 7.6.1 of the EP).	The EP demonstrates that there are no known underwater heritage sites or shipwrecks within the Petroleum Activities Area and identifies that there are no credible impacts to the values of any underwater heritage or shipwrecks as a result of planned activities (Sections 4.9.3 and 6.10). While impacts to underwater heritage sites or shipwrecks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.8. No additional measures or controls are required.
Outcomes of consultation		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DPLH for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to DPLH on 13 September 2023 and 18 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has addressed and responded to DPLH over a 28-month period.

Western Australian Museum

Summary of information provided and record of consultation for this EP:

- On 13 September 2023, Woodside emailed WA Museum advising of the proposed activity (Record of Consultation, reference 1.10) and provided a Consultation Information Sheet, list of shipwrecks and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 9 October 2023, WA Museum responded thanking Woodside for the information (SI Report, reference 7.1). WA Museum:
 - (1) Advised that under the Underwater Heritage Act 2018, proponents should, in the first place, contact DCCEEW as the Commonwealth regulator.
 - (2) Directed Woodside to refer to the Commonwealth Government's Underwater Cultural Heritage Guidance for Offshore Developments regarding UCH assessments and draft Guidelines for Working in the Near and Offshore Environment to Protect Underwater Cultural Heritage.
 - (3) Recommended that Woodside engages a suitably qualified and experienced maritime archaeologist to undertake a UCH Desktop Assessment to identify Aboriginal and non-Aboriginal UCH within the project area.
 - (4) Recommended that Woodside consult with Traditional Owners where appropriate if the project involves seabed disturbance in water shallower than 130m.
- On 15 November 2023, Woodside responded and thanked WA Museum for its feedback (SI Report, reference 7.2). Woodside:
 - (1) Confirmed it had consulted the Commonwealth regulator, DCCEEW, for this EP.
 - (2) Confirmed it referred to the Commonwealth Government's Underwater Cultural Heritage Guidance for Offshore Developments regarding UCH assessments and draft Guidelines for Working in the Near and Offshore Environment to Protect Underwater Cultural Heritage.
 - (3) Noted that as this EP involved ongoing operations, mapping and identification for non-Aboriginal UCH within the project area had previously been completed.

- (3) Advised that Woodside engaged a desktop review by qualified and experienced maritime archaeologists for seabed disturbing activities to a depth of approximately 130m. As the shallowest water depth for the Operational Area of this activity is 180m, Woodside considered the projects area to be beyond the depth contours for potential Aboriginal UCH.
- (4) Confirmed that while this activity did not involve seabed disturbance in water shallower than 130m, Woodside consulted with Traditional Owners in the course of preparing EPs and also engaged in ongoing consultation subsequent to the approval of EPs.
- (4) As per Woodside's ongoing consultation approach, feedback and comments received continued to be assessed and responded to, as required, through the life of an EP.
- On 18 February 2025, Woodside emailed WA Museum a consultation update on this EP (Record of Consultation, reference 3.12). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with WA Museum. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA, and an updated State shipwreck list (Record of Consultation, reference 3.24).
- On 19 February 2025, WA Museum responding thanking Woodside for the email and confirming the information would be forwarded to the appropriate department (SI Report, reference 7.3).
- On 11 March 2025, Woodside sent a reminder email to WA Museum following up on the proposed activity (Record of Consultation, reference 4.2). Woodside included a link to the Consultation Information Sheet on Woodside's website and the updated State shipwreck list (Record of Consultation, reference 3.24).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Woodside should contact DCCEEW as the Commonwealth regulator.	(1) Woodside assessment: Woodside assessed DCCEEW as relevant and has consulted it for this EP. Woodside response: Woodside confirmed it had consulted DCCEEW, as the Commonwealth regulator, for this EP.	(1) Woodside assessed DCCEEW as a relevant person for this EP (see Appendix F, Table 1) in accordance with regulation 25(1) of the Environment Regulations and consulted it as described in Appendix F, Table 2.
(2) Refer to the Commonwealth Government's Underwater Cultural Heritage Guidance for Offshore Developments.	(2) Woodside assessment: Woodside refers to the Commonwealth Government's relevant underwater cultural guidance and draft guidelines. Woodside response: Woodside confirmed it referred to the Commonwealth Government's Underwater Cultural Heritage Guidance for Offshore Developments regarding UCH assessments and draft Guidelines for Working in the Near and Offshore Environment to Protect Underwater Cultural Heritage.	(2) Not required.

(3) Engage a maritime archaeologist to undertake a UCH Desktop Assessment.	(3) Woodside assessment: Mapping has been completed for the ongoing operations associated with this EP, and the water depth of the Operational Area is considered too deep for potential Aboriginal UCH. Woodside response: Woodside noted that as this EP involved ongoing operations, mapping had already been completed for non-Aboriginal UCH. As the shallowest water depth for the Operational Area of this activity is 180m, Woodside considered the project area to be beyond the depth contour for potential Aboriginal UCH.	(3) Not required.
(4) Woodside recommended to consult Traditional Owners where appropriate if the project involves seabed disturbance in water shallower than 130m.	(4) Woodside assessment: This activity does not involve seabed disturbance in water shallower than 130m. Woodside response: Woodside confirmed that although this activity did not involve seabed disturbance in water shallower than 130m, Woodside consulted Traditional Owners in the course of preparing EPs and also engaged in ongoing consultation subsequent to the approval of the EP.	(4) Consultation with Traditional Owners is described in Appendix F, Table 2 of the EP.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	The EP demonstrates that there are no known underwater heritage sites or shipwrecks within the Petroleum Activities Area and identifies that there are no credible impacts to the values of any underwater heritage or shipwrecks as a result of planned activities (Sections 4.9 and 6.10). While impacts to underwater heritage sites or shipwrecks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.8. As part of ongoing consultation engagements as set out in Table 7-7 of the EP, Woodside will notify WAM of any

		unexpected finds of potential Underwater Cultural Heritage under the Unexpected Finds Procedure (as described in Section 7.9 of the EP). No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with WA Museum for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to WA Museum on 15 September 2023 and 18 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has addressed and responded to WA Museum over a 28-month period.		

Pilbara Ports

Summary of information provided and record of consultation for this EP:		
• On 19 September 2023, Woodside emailed Pilbara Ports advising of the proposed activity (Record of Consultation, reference 1.29) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to Pilbara Ports following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Pilbara Ports for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Pilbara Ports on 19 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Pilbara Ports with the opportunity to provide feedback over a 28-month period.		

Kimberley Ports Authority

Summary of information provided and record of consultation for this EP:		
• On 19 September 2023, Woodside emailed Kimberley Ports Authority advising of the proposed activity (Record of Consultation, reference 1.29) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to Kimberley Ports Authority following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website. • On 27 February 2025, Woodside emailed Kimberley Ports Authority a consultation update on this EP (Record of Consultation, reference 3.21). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with Kimberley Ports Authority. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA. • On 19 March 2025, Woodside sent a reminder email to Kimberley Ports Authority following up on the proposed activity (Record of Consultation, reference 4.7). Woodside included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Kimberley Ports Authority for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Kimberley Ports Authority on 19 September 2023 and 27 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Kimberley Ports Authority with the opportunity to provide feedback over a 28-month period.		

Mid West Ports Authority

Summary of information provided and record of consultation for this EP:		
• On 19 September 2023, Woodside emailed Mid West Ports Authority advising of the proposed activity (Record of Consultation, reference 1.29) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to Mid West Ports Authority following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Mid West Ports Authority for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Mid West Ports Authority on 19 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided the Mid West Ports Authority with the opportunity to provide feedback over a 28-month period.		

Fremantle Port Authority

Summary of information provided and record of consultation for this EP:		
• On 21 September 2023, Woodside emailed Fremantle Ports advising of the proposed activity (Record of Consultation, reference 1.36 and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to Fremantle Ports following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Fremantle Ports for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Fremantle Ports on 21 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Fremantle Ports with the opportunity to provide feedback over a 28-month period.		

Port of Christmas Island

Summary of information provided and record of consultation for this EP:		
• On 15 December 2023, Woodside emailed Port of Christmas Island advising of the proposed activity (Record of Consultation, reference 1.100) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 9 January 2024, Woodside sent a reminder email to Port of Christmas Island following up on the proposed activity (Record of Consultation, reference 2.19) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Port of Christmas Island for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Port of Christmas Island on 15 December 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Port of Christmas Island with the opportunity to provide feedback over a 25-month period.		

Commonwealth and State Government Departments or Agencies – Environment

Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (marine pests, vessels, aircraft and personnel)

Summary of information provided and record of consultation for this EP: • On 16 October 2023, Woodside emailed DAFF - Biosecurity advising of the proposed activity (Record of Consultation, reference 1.57) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 3 November 2023, Woodside sent a reminder email following up on the proposed activity (Record of Consultation, reference 2.14) and included a link to the Consultation Information Sheet on Woodside's website.

- On 18 February 2025, Woodside emailed DAFF - Biosecurity a consultation update on this EP (Record of Consultation, reference 3.11). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DAFF - Biosecurity. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 11 March 2025, Woodside sent a reminder email to DAFF - Biosecurity following up on the proposed activity (Record of Consultation, reference 4.2). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Vessels are required to comply with the Australian Biosecurity Act 2015, specifically the Australian Ballast Water Management Requirements (as defined under the Biosecurity Act 2015) (aligned with the International Convention for the Control and Management of Ships' Ballast Water and Sediments) to prevent introducing IMS. Vessels will be assessed and managed to prevent the introduction of invasive marine species in accordance with Woodside's Invasive Marine Species Management Plan (see Section 6.8.12 of the EP). No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DAFF - Biosecurity for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity on 16 October 2023 and 18 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure Consultation on offshore petroleum environment plans: Information for the community.
- Woodside has sent follow-up emails seeking feedback on the proposed activities.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Woodside has provided DAFF - Biosecurity with the opportunity to provide feedback over a 25-month period.

Department of Climate Change, Energy, the Environment and Water (DCCEEW)

Summary of information provided and record of consultation for this EP:

- On 15 September 2023, Woodside emailed DCCEEW advising of the proposed activity (Record of Consultation, reference 1.9) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 9 October 2023, DCCEEW responded thanking Woodside for contacting the Department in relation to this EP (SI Report, reference 8.1). DCCEEW:
 - (1) Advised Underwater Cultural Heritage (UCH) may potentially be impacted by planned or unplanned activities or events in relation to offshore petroleum activities.
 - (2) Noted Woodside was already aware of the *Underwater Cultural Heritage Act 2018* (UCH Act 2018) and its requirements based on communication received during previous EP consultations.
 - (3) Provided a summary of legislation and protections, key requirements and obligations, and management considerations and recommendations from the UCH Act 2018.
- On 15 November 2023, Woodside responded and thanked DCCEEW for its email (SI Report, reference 8.2). Woodside:
 - (1) Confirmed mapping and identification for non-Aboriginal UCH with the project area had previously been completed for these ongoing activities.
 - (1) Advised the shallowest water depths in the Operational Area, at 180m, were considered beyond the 130m depth contours for potential Aboriginal UCH.
 - (2) Confirmed it referred to the Department's UCH Guidance for Offshore Developments document and draft Guidelines for Working in the Near and Offshore Environment to Protect Underwater Cultural Heritage.
 - (2) Confirmed it was aware of the legislative requirements of the Underwater Cultural Heritage Act 2018.
 - (3) Noted the Department's summary of legislation and protections, key responsibilities and obligations for proponents, and management recommendations.
 - (3) Confirmed it consulted with communities and Traditional Owners in the course of preparing EPs and engaged in ongoing consultation subsequent to the approval of EPs.
- On 18 February 2025, Woodside emailed DCCEEW a consultation update on this EP (Record of Consultation, reference 3.12). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DCCEEW. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA. Woodside also attached updated State and Commonwealth shipwreck lists (Record of Consultation, references 3.24 and 3.25).
- On 11 March 2025, Woodside sent a reminder email to DCCEEW following up on the proposed activity (Record of Consultation, reference 4.2). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) UCH may potentially be impacted by planned or unplanned activities related to offshore petroleum activities.	Woodside assessment: Mapping has already been completed for the ongoing operations associated with this EP, and the water depth of the Operational Area is considered too deep for potential Aboriginal UCH. Woodside response: Woodside noted that as this EP involved ongoing operations, mapping had already been completed for non-Aboriginal UCH. As the shallowest water depth for the Operational Area of this activity is 180m, Woodside considers the project area to be beyond the depth contour for potential Aboriginal UCH.	(1) The EP demonstrates that there are no known underwater heritage sites or shipwrecks within the Petroleum Activities Area and identifies that there are no credible impacts to the values of any underwater heritage or shipwrecks as a result of planned activities (Section 4.9 and Section 6.7). While impacts to underwater heritage sites or shipwrecks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.8 of this EP.
(2) It noted Woodside is already aware of the Underwater Cultural Heritage Act 2018.	(2) Woodside assessment: Woodside agrees it is aware of the Underwater Cultural Heritage Act 2018. Woodside response: Woodside confirmed it was aware of the legislative requirements of the Underwater Cultural Heritage Act 2018.	(2) Not required.
(3) A summary of legislation and protections, key responsibilities and obligations, and management considerations and recommendations from the UCH Act 2018.	(3) Woodside assessment: Woodside adheres to the Underwater Cultural Heritage Act 2018. Woodside response: Woodside confirmed it had noted the Department's summary of key legislation and protections, responsibilities and obligations, and management considerations and recommendations from the UCH Act 2018.	(3) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP.

	received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DCCEEW for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation information provided to DCCEEW on 15 September 2023 and 18 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has addressed and responded to DCCEEW over a 28-month period.		

Director of National Parks (DNP)

Summary of information provided and record of consultation for this EP: • On 19 September 2023, Woodside emailed DNP advising of the proposed activity (Record of Consultation, reference 1.30) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to DNP following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website. • On 9 November 2023, Woodside sent a second reminder email to DNP following up on the proposed activity (Record of Consultation, reference 2.16) and included a link to the Consultation Information Sheet on Woodside's website. • On 7 December 2023, DNP responded to Woodside and apologised for the delayed response (SI Report, reference 9.1). DNP noted that: – (1) Based on the information provided, the planned activity did not overlap any Australian Marine Parks (AMPs) therefore there were no authorisation requirements from the DNP.

- (2) To assist in the preparation of an EP for petroleum activities, NOPSEMA has worked closely with Parks Australia to develop and publish a guidance note that outlines what titleholders need to consider and evaluate. Titleholders should ensure the EP:
 - Identified and managed all impacts and risks on Australian Marine Park values (including ecosystem values) and had considered all options to avoid or reduce them to as low as reasonably practicable (ALARP).
 - Clearly demonstrated the activity would not be inconsistent with the North-west Marine Parks Network Management Plan 2018.
- (3) It did not require further notification of progress made in relation to this activity unless details regarding the activity changed and resulted in an overlap with a marine park or new impact, or for emergency responses.
- On 14 December 2023, Woodside responded thanking DNP for its email (SI Report, reference 9.2) and:
 - (1) Noted DNP's confirmation that planned activities did not overlap any AMPs and there were no authorisation requirements.
 - (2) Confirmed Woodside had taken into consideration the 'Petroleum Activities and Australian Marine Parks' guidance note to ensure the EP:
 - Identified and managed all impacts and risks on AMP values (including ecosystem values) to an acceptable level.
 - Clearly demonstrated that the activities would not be inconsistent with the North-west Marine Parks Network Management Plan 2018.
 - (3) Confirmed Woodside would notify DNP in relation to these activities if details regarding the activities changed and resulted in an overlap with or new impact to a marine park, or for emergency responses.
- On 17 February 2025, Woodside emailed DNP a consultation update on this EP (Record of Consultation, reference 3.8). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DNP. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA. Based on the revised EMBA, Woodside also included an updated list of national parks which had to the potential to be contacted in the event of a spill.
- On 10 March 2025, Woodside sent a reminder email to DNP following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.
- On 20 March 2025, DNP responded thanking Woodside for the opportunity to comment on the additional modelling. DNP:
 - (1) Confirmed planned activities did not overlap any AMPs therefore there were no authorisation requirements from the DNP.
 - (4) Noted the management plans which provided further information on values for Abrolhos, Carnarvon Canyon, Gascoyne, Montebello, Ningaloo and Shark Bay marine parks.
 - (3) Confirmed it did not require further notifications unless changes to the activity resulted in an overlap or new impact to a marine park, or for emergency responses. DNP also included details of the emergency response process.
- On 26 March 2025, Woodside responded thanking DNP for its email (SI Report, reference 4.4). Woodside:
 - (1) Noted DNP's confirmation that planned activities did not overlap any AMPs, therefore there were no authorisation requirements from DNP.
 - (4) Noted the management plans referenced by DNP.
 - (3) Noted DNP did not require any further updates unless changes resulted in an overlap with an AMP or for emergency response.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Planned activities do not overlap any Australian Marine Parks and there are therefore no authorisation requirements from the DNP.	(1) Woodside assessment: Woodside noted there were no authorisation requirements from the DNP. Woodside response: Woodside noted the DNP's confirmation that planned activities did no overlap AMPs and there are no authorisation requirements.	(1) Not required.
(2) Woodside should ensure EPs identify and manage all impacts and risks on AMP values, and clearly demonstrate that activities will not be inconsistent with the management plan.	(2) Woodside assessment: Woodside has considered the 'Petroleum Activities and Australian Marine Parks' guidance note to assess and manage impacts and risks to AMPs. Woodside response: Woodside confirmed it had taken into consideration the 'Petroleum Activities and Marine Parks' guidance note to ensure the EP identified and managed all risks on AMP values, and clearly demonstrated that activities will not be inconsistent with the management plan.	(2) The EP demonstrates how Woodside will identify and manage all impacts and risks on Australian Marine Park values (including ecosystem values) to an ALARP and acceptable level and that the activity is not inconsistent with the management plan (see Section 6.8 of the EP).
(3) It does not require further notification of progress unless details regarding the activity change and result in an overlap with a marine park or new impact, or for emergency responses.	(3) Woodside assessment: Woodside will notify DNP in the event of relevant changes to the activity, or for emergency responses. Woodside response: Woodside confirmed it would notify DNP if activities changed and resulted in an overlap with or new impact to a marine park, or for emergency responses.	(3) Woodside will provide notification of significant change, as appropriate, to relevant persons as referenced in Section 7.15 of the EP. Woodside will ensure DNP is made aware of any incidences within a marine park for the activity, as per the commitment in the Oil Pollution First Strike Plan (Appendix I).
(4) Noted the specific management plans which provide further information on values for marine parks.	(4) Woodside assessment: Woodside refers to the management plans in the EP. Woodside response: Woodside noted DNP's reference to the management plans.	(4) Not required.

While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DNP for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to DNP on 19 September 2023 and 17 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent follow-up emails seeking feedback on the proposed activities. • Woodside has addressed and responded to DNP over a 28-month period.		

Ningaloo Coast World Heritage Advisory Committee (NCWHAC)

Summary of information provided and record of consultation for this EP: • On 13 September 2023, Woodside emailed NCWHAC advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to NCWHAC following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

- On 9 November 2023, Woodside sent a second reminder email to NCWHAC following up on the proposed activity (Record of Consultation, reference 2.16) and included a link to the Consultation Information Sheet on Woodside's website. No response was received.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with NCWHAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to NCWHAC on 13 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent follow-up emails seeking feedback on the proposed activities. - Woodside has provided NCWHAC with the opportunity to provide feedback over a 28-month period.		

Department of Biodiversity, Conservation and Attractions (DBCA)

Summary of information provided and record of consultation for this EP:

- On 13 September 2023, Woodside emailed DBCA advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 23 October 2023, DBCA responded thanking Woodside for the email and consultation information (SI Report, reference 10.1). DBCA noted:
 - (1) The operations were in vicinity of reserves managed by DBCA under the CALM act and given the ecological importance of areas potentially affected by a hydrocarbon release from the proposed activities, it was considered important that the baseline values and state of the potentially affected environment were appropriately understood and documented prior to operations commencing.
 - (2) It would like to have confidence that Woodside had established appropriate baseline survey data on the current state of areas supporting important ecological values and any current contamination if present within the area of potential impact of hydrocarbon releases.
 - (3) It undertakes monitoring in marine parks and reserves and published monitoring reports which are available on its website, however Woodside should be aware this monitoring is targeted to inform DBCA's values and objectives and is not necessarily suitable to provide baseline information for oil spill risk assessment and management planning.
 - (4) It recommended Woodside refer to the Department of Climate Change, Energy, the Environment and Water's National Light Pollution Guidelines for Wildlife as a best-practice industry standard for managing potential impacts of light pollution on marine fauna.
 - (5) In the event of a hydrocarbon release, it was requested that Woodside notify DBCA's Pilbara regional office as soon as practicable on (08) 9182 2000.
 - (6) It would not implement an oiled wildlife management response on behalf of a petroleum operator except as part of a whole of government response mandated by regulatory decision makers.
 - (7) Woodside should refer to the Department of Transport's web content regarding marine pollution and the Offshore Petroleum Industry Guidance Note of 2020 titled Marine Oil Pollution: Response and Consultation Arrangements. (7) Woodside refers to DoT's content in the development of its response plans.
- On 31 October 2023, following feedback from the Shire of Shark Bay that the DBCA's Shark Bay office may also wish to provide feedback, Woodside emailed DBCA Shark Bay advising of the proposed activity (Record of Consultation, reference 1.61) and provided a Consultation Information Sheet. Woodside noted in the email that DBCA's main department had already provided feedback on the activity.
- On 15 November 2023, Woodside responded thanking DBCA's main department for its feedback on 23 October 2023 (SI Report, reference 10.2). Woodside:
 - (1, 2) Confirmed it maintained knowledge and an understanding of areas of ecological importance within and adjacent to operational areas.
 - (3) Advised its oil spill scientific monitoring program would provide for a quantitative assessment of the overall environmental impacts in the event of an unplanned hydrocarbon release.
 - (4) Confirmed the lighting associated with the Pyrenees Facility Operations EP and any associated activity vessels was required as a priority for safe operation.
 - (4) Confirmed it had considered DCCEEW's National Light Pollution Guidelines with respect to vessel activities. The impact assessment determined that the impacts of lighting were as low as reasonably practicable (ALARP).
 - (5) Advised it had incorporated the DBCA Pilbara regional office telephone number as part of the notifications listed in the Oil Pollution First Strike Plan, which describes the incident management structure, notification and reporting requirements, the Operational Area, activity specific credible spill scenarios, and the hydrocarbon spill response strategies available.
 - (6) Noted that DBCA would not implement an oiled wildlife management response on behalf of a petroleum operator.

- On 15 December 2023, Woodside sent a reminder email to the DBCA's Shark Bay office following up on the proposed activity (Record of Consultation, reference 2.19) and included a link to the Consultation Information Sheet on Woodside's website.
- On 21 February 2025, Woodside emailed DBCA a consultation update on this EP (Record of Consultation, reference 3.18). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DBCA. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 11 March 2025, Woodside sent a reminder email to DBCA following up on the proposed activity (Record of Consultation, reference 4.4). Woodside included a link to the Consultation Information Sheet on Woodside's website.
- On 21 March 2025, DBCA responded thanking Woodside for the information (SI Report, reference 10.3). DBCA:
 - (1) Noted it had previously provided advice in relation to petroleum activities, including Pyrenees, in proximity to important areas such as marine parks and other reserves managed in accordance with the CALM Act.
 - (8) DBCA welcomed any additional information on Woodside's monitoring or oil spill response preparedness.
 - (9) Woodside should be aware that activities requiring access to reserves under the CALM Act or the taking/disturbance of threatened fauna may require additional approvals.
- On 6 May 2025, Woodside responded thanking DBCA for its feedback (SI Report, reference 10.4). Woodside:
 - (1) Noted DBCA's previous comments regarding activities in proximity to petroleum activities, including in relation to Pyrenees operations.
 - (8) Advised that since the initial consultation for DBCA for this EP, Woodside:
 - Was now subscribed to a joint industry operational and scientific monitoring framework which, in the event of a spill, would guide situational awareness and response as well as undertake a suite of science-based monitoring programs to evaluate environmental damage.
 - Advised that as noted in the additional consultation material sent in February 2025, Woodside had undertaken additional spill modelling which had resulted in potential use of dispersant being reassessed to a 'secondary'/'potential' technique. Woodside noted in all cases it would reconsult with relevant authorities and provided criteria for the use of dispersant.
 - (9) Confirmed it was aware that activities requiring access to reserves under the CALM Act or the taking/disturbance of threatened fauna under the BC Act may require additional approvals.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Ecologically important areas including marine parks and coastal conservation reserves in the vicinity of the proposed operations.	(1) Woodside assessment: Woodside is aware of ecologically important areas and has ensured there are no credible impacts from planned activities. Woodside response: Woodside confirmed that areas of ecological importance in the proximity of the EP	(1) The EP demonstrates that the proposed activities are outside the boundaries of a proclaimed State Marine Park and identifies that there are no credible impacts to the values of any State Marine Parks as a result of planned activities (Section 4.9.3 and Section 6.8 of the EP). While

	Operational Areas would not be impacted by planned activities.	impacts to Commonwealth Marine Parks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Sections 6.8.2-6.8.8 of the EP.
(2) The establishment of appropriate baseline survey data on the current state of areas.	(2) Woodside assessment: Woodside maintains knowledge of areas of ecological importance adjacent to the Operational Area and assesses the existing environment that may be affected in the EP. Woodside response: Woodside confirmed it maintained knowledge and an understanding of areas of ecological importance adjacent to Operational Areas.	(2) A description of the existing environment that may be affected is provided in Section 4 of this EP.
(3) Encouraging Woodside to acquire the necessary information to implement a Before-After Control Impact (BACI) framework.	(3) Woodside assessment: Woodside has the necessary information to assess environmental impacts in the event of an unplanned hydrocarbon release. Woodside response: Woodside confirmed its oil spill scientific monitoring program (SMP) would provide for a quantitative assessment of the overall environmental impacts in the event of an unplanned hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors.	(3) Review of knowledge relevant to the existing environment is undertaken as described in Section 7.11.2 of this EP.
(4) Recommending Woodside refers to DCCEE's National Light Pollution Guidelines for Wildlife.	(4) Woodside assessment: Woodside referred to DCCEE's National Light Pollution Guidelines for Wildlife in the preparation of this EP. Woodside response: Woodside confirmed it had considered DCCEE's National Light Pollution Guidelines for Wildlife and that lighting associated with this EP was required as a priority for safe operation.	(4) Woodside's impact assessment for light emissions is based on recommendations of the National Light Pollution Guidelines for Wildlife (see Section 6.7.3).
(5)	(5)	(5)

Its 'Incidents and Emergency process, including that Woodside notify DBCA's Pilbara office as soon as practicable in the event of a hydrocarbon release.	Woodside assessment: Woodside has incorporated the DBCA Pilbara number into its First Strike Plan. Woodside response: Woodside noted DBCA's Incidents and Emergency Response and confirmed the DBCA Pilbara number had been incorporated as part of the Oil Pollution First Strike Plan.	DBCA's Pilbara phone number has been incorporated into the Oil Pollution First Strike Plan for this EP (see Appendix I).
(6) The implementation of an oiled wildlife management response.	(6) Woodside assessment: Woodside notes DBCA will not implement an oiled wildlife management response on behalf of an operator. Woodside response: Woodside acknowledged that DBCA would not implement an oiled wildlife management response on behalf of a petroleum operator.	(6) Woodside's Oiled Wildlife Response is included in the Oil Spill Preparedness and Response Mitigation Assessment for this EP (see Appendix H).
(7) Woodside should refer to the DoT's web content on marine pollution, and the guidance note Marine Oil Pollution: Response and Consultation Arrangements.	(7) Woodside assessment: Woodside refers to DoT's marine pollution content in the development of its response plans. Woodside response: Woodside noted DBCA's reference to DoT's marine oil pollution content.	(7) Woodside refers to the specified marine oil pollution content and guidance note in its First Strike Plan for this activity (Appendix I).
(8) Any additional information Woodside can provide related to monitoring or oil spill response preparedness.	(8) Woodside assessment: Additional information has been provided to DBCA based on updates that have taken place since consultation was first undertaken on this EP. Woodside response: Woodside confirmed that since the initial consultation for the EP, Woodside was now subscribed to a joint industry framework. Woodside also provided updates to spill modelling related to the activity.	(8) Woodside's Oil Spill Preparedness and Response Mitigation Assessment is in Appendix H of the EP. Woodside's First Strike Plan is in Appendix I of the EP.
(9) Woodside should be aware that activities requiring access to reserves or taking/disturbance of threatened fauna may require additional approvals.	(9) Woodside assessment: Woodside is aware of the CALM Act and BC Act. Woodside response: Woodside confirmed it was aware activities requiring access to reserves or the taking/disturbance of threatened fauna may require additional approvals.	(9) Not required.

While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DBCA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to DBCA on 13 September 2023 and 21 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has addressed and responded to DBCA over a 28-month period.		

Department of Industry, Tourism and Trade (DITT) – Aquatic Biosecurity

Summary of information provided and record of consultation for this EP and the other operations EP: • On 22 September 2023, Woodside emailed DITT – Aquatic Biosecurity, advising of the proposed activity (Record of Consultation, reference 1.100) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 19 January 2024, Woodside sent a reminder email to DITT – Aquatic Biosecurity following up on the proposed activity (Record of Consultation, reference 2.19) and included a link to the Consultation Information Sheet on Woodside's website. • On 17 February 2025, Woodside emailed DITT – Aquatic Biosecurity a consultation update on this EP (Record of Consultation, reference 3.2). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DITT – Aquatic Biosecurity. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
--

- On 10 March 2025, Woodside sent a reminder email to DITT – Aquatic Biosecurity following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DITT – Aquatic Biosecurity for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation information provided to DITT – Aquatic Biosecurity on 22 September 2023 and 17 February 2025 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent follow-up emails seeking feedback on the proposed activities. - Woodside has provided DITT – Aquatic Biosecurity with the opportunity to provide feedback over a 28-month period.		

Department of Environment, Parks and Water Security (DEPWS)

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 22 September 2023, Woodside emailed DEPWS advising of the proposed activity (Record of Consultation, reference 1.40) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 16 October 2023, Woodside sent a reminder email to DEPWS following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 17 February 2025, Woodside emailed DEPWS a consultation update on this EP (Record of Consultation, reference 3.3). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DEPWS. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 10 March 2025, Woodside sent a reminder email to DEPWS following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DEPWS for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation information provided to DEPWS on 22 September 2023 and 17 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent follow-up emails seeking feedback on the proposed activities. • Woodside has provided DEPWS with the opportunity to provide feedback over a 28-month period.		

Northern Territory Environment Protection Authority (NTEPA)

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 22 September 2023, Woodside emailed NTEPA advising of the proposed activity (Record of Consultation, reference 1.40) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to NTEPA following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 17 February 2025, Woodside emailed NTEPA a consultation update on this EP (Record of Consultation, reference 3.3). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with NTEPA. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 10 March 2025, Woodside sent a reminder email to NTEPA following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with NTEPA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation information provided to NTEPA on 22 September 2023 and 17 February 2025 based on their functions, interests or activities.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 142 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Woodside has provided a link to NOPSEMA's brochure Consultation on offshore petroleum environment plans: Information for the community.
- Woodside has sent follow-up emails seeking feedback on the proposed activities.
- Woodside has provided NTEPA with the opportunity to provide feedback over a 28-month period.

Northern Territory Department of Infrastructure, Planning and Logistics (DIPL) – Marine Safety

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 15 December 2023, Woodside emailed DIPL – Marine Safety advising of the proposed activity (Record of Consultation, reference 1.100) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 9 January 2024, Woodside sent a reminder email to DIPL – Marine Safety following up on the proposed activity (Record of Consultation, reference 2.19) and included a link to the Consultation Information Sheet on Woodside's website.
- On 17 February 2025, Woodside emailed DIPL – Marine Safety a consultation update on this EP (Record of Consultation, reference 3.2). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DIPL – Marine Safety. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 10 March 2025, Woodside sent a reminder email to DIPL – Marine Safety following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DIPL – Marine Safety for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:		
• Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.		

- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation information provided to DIPL – Marine Safety on 15 December 2023 and 17 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure Consultation on offshore petroleum environment plans: Information for the community.
- Woodside has sent follow-up emails seeking feedback on the proposed activities.
- Woodside has provided DIPL – Marine Safety with the opportunity to provide feedback over a 25-month period.

Commonwealth and State Government Departments or Agencies – Industry

Department of Industry, Science and Resources (DISR)

Summary of information provided and record of consultation for this EP:

- On 13 September 2023, Woodside emailed DISR advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to DISR following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 18 February 2025, Woodside emailed DISR a consultation update on this EP (Record of Consultation, reference 3.14). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DISR. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 14 March 2025, Woodside sent a reminder email to DISR following up on the proposed activity (Record of Consultation, reference 4.5). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DISR for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to DISR on 13 September 2023 and 18 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent follow-up emails seeking feedback on the proposed activities. • Woodside has provided DISR with the opportunity to provide feedback over a 28-month period.		

Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) / now Department of Mines, Petroleum and Exploration (DMPE)

Summary of information provided and record of consultation for this EP: • On 13 September 2023, Woodside emailed DEMIRS advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to DEMIRS following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website. • On 18 February 2025, Woodside emailed DEMIRS a consultation update on this EP (Record of Consultation, reference 3.14). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DEMIRS. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA. • On 14 March 2025, Woodside sent a reminder email to DEMIRS following up on the proposed activity (Record of Consultation, reference 4.5). Woodside included a link to the Consultation Information Sheet on Woodside's website.
--

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DEMIRS for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to DEMIRS on 13 September 2023 and 18 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent follow-up emails seeking feedback on the proposed activities. • Woodside has provided DEMIRS with the opportunity to provide feedback over a 28-month period.		

Department of Industry, Tourism and Trade (DITT) – Mining and Energy

Summary of information provided and record of consultation for this EP and the other operations EP: • On 22 September 2023, Woodside emailed DITT – Mining and Energy, advising of the proposed activity (Record of Consultation, reference 1.40) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to DITT – Mining and Energy following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website. • (1) On 30 October 2023, DITT – Mining and Energy thanked Woodside for its email and advised it had no comment (SI Report, reference 11.1).
--

- (1) On 31 October 2023, Woodside responded thanking DITT – Mining and Energy for its email and noted it had no comment (SI Report, reference 11.2).
- On 15 December 2023, Woodside emailed DITT – Mining and Energy to confirm whether its feedback encompassed the Aquatic Biosecurity arm of DITT (SI Report, reference 11.3).
- On 15 December 2023, DITT – Mining and Energy advised that Woodside should consult Aquatic Biosecurity separately (SI Report, reference 11.4).
- On 15 December 2023, Woodside thanked DITT – Mining and Energy for the advice and confirmed it would contact the Aquatic Biosecurity division (SI Report, reference 11.5).
- On 17 February 2025, Woodside emailed DITT – Mining and Energy a consultation update on this EP (Record of Consultation, reference 3.3). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with DITT- Mining and Energy. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 10 March 2025, Woodside sent a reminder email to DITT – Mining and Energy following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) DITT – Mining and Energy advised it had no comment.	(1) Woodside assessment: Woodside accepts DITT – Mining and Energy has no comment. Woodside response: Woodside noted DITT – Mining and Energy had no comment on the proposed activity.	(1) Not required.
While feedback has been received, there were no objections or comments.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DITT – Mining and Energy for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.		

- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to DITT – Mining and Energy on 22 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent follow-up emails seeking feedback on the proposed activities.
- Woodside has provided DITT – Mining and Energy with the opportunity to provide feedback over a 28-month period.

Commonwealth Commercial fisheries and representative bodies

North West Slope and Trawl Fishery

Summary of information provided and record of consultation for this EP:

- On 22 September 2023, Woodside emailed North West Slope and Trawl Fishery individual licence holders advising of the proposed activity (Record of Consultation, reference 1.38) and provided a Consultation Information Sheet.
- On 18 October 2023, Woodside sent a reminder email to North West Slope and Trawl Fishery following up on the proposed activity (Record of Consultation, reference 2.3) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted AFMA, DAFF – Fisheries, CFA and individual relevant licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with Commonwealth-managed commercial fisheries in Section 4.10.1 of this EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with North West Slope and Trawl Fishery for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to North West Slope and Trawl Fishery on 22 September 2023 based on their functions, interests or activities.
- Woodside has sent a follow-up email seeking feedback on the proposed activity.
- Woodside has provided the North West Slope and Trawl Fishery with the opportunity to provide feedback over a 28-month period.

Western Deepwater Trawl Fishery

Summary of information provided and record of consultation for this EP:

- On 22 September 2023, Woodside emailed Western Deepwater Trawl Fishery individual licence holders advising of the proposed activity (Record of Consultation, reference 1.37) and provided a Consultation Information Sheet.
- On 18 October 2023, Woodside sent a reminder email to Western Deepwater Trawl Fishery following up on the proposed activity (Record of Consultation, reference 2.3) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted AFMA, DAFF - Fisheries, CFA, and individual relevant licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with Commonwealth-managed commercial fisheries in Section 4.10.1 of this EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Western Deepwater Trawl Fishery for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Western Deepwater Trawl Fishery on 22 September 2023 based on their functions, interests or activities.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided the Western Deepwater Trawl Fishery with the opportunity to provide feedback over a 28-month period.

Western Tuna and Billfish Fishery

Summary of information provided and record of consultation for this EP:

- On 22 September 2023, Woodside emailed Western Tuna and Billfish Fishery individual licence holders advising of the proposed activity (Record of Consultation, reference 1.37) and provided a Consultation Information Sheet.
- On 18 October 2023, Woodside sent a reminder email to Western Tuna and Billfish Fishery following up on the proposed activity (Record of Consultation, reference 2.3) and included a link to the Consultation Information Sheet on Woodside's website.
- **(1)** On 19 October 2023, a licence holder from the Western Tuna and Billfish Fishery responded asking to be removed from Woodside's mailing list and for Woodside to consult with Tuna Australia (SI Report, reference 12.1).
- **(1)** On 2 November 2023, Woodside responded thanking the licence holder for their email and confirming they would be removed from Woodside's mailing list and correspondence would be directed to Tuna Australia (SI Report, reference 12.2).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) A licence holder from the Western Tuna and Billfish Fishery asked to be removed from Woodside's mailing list and for Woodside to consult with Tuna Australia.	(1) Woodside assessment: Woodside accepts that the consultation process is voluntary.	(1) Not required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Woodside response: Woodside confirmed it had removed the licence holder from mailing lists and correspondence would be directed to Tuna Australia.	
While feedback has been received, there were no objections or claims.	Woodside has consulted Tuna Australia, AFMA, DAFF - Fisheries, CFA, ASBTIA and individual relevant licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with Commonwealth managed commercial fisheries in Section 4.10.1 of this EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Western Tuna and Billfish Fishery for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Western Tuna and Billfish Fishery on 22 September 2023 based on their functions, interests or activities. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Western Tuna and Billfish Fishery with the opportunity to provide feedback over a 28-month period.		

Northern Prawn Fishery

Summary of information provided and record of consultation for this EP:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 151 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 22 September 2023, Woodside emailed Northern Prawn Fishery licence holders advising of the proposed activity (Record of Consultation, reference 1.37) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Northern Prawn Fishery following up on the proposed activity (Record of Consultation, reference 2.3) and included a link to the Consultation Information Sheet on Woodside's website.
- (1) On 18 October 2023, a licence holder from the Northern Prawn Fishery responded asking to be removed from Woodside's mailing list (SI Report, reference 69.1).
- (1) On 24 November 2023, Woodside responded thanking the licence holder for their email and confirming they had been removed from the mailing list (SI Report, reference 69.2).
- On 17 February 2025, Woodside emailed Northern Prawn Fishery licence holders a consultation update on this EP (Record of Consultation, reference 3.3). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with Northern Prawn Fishery. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 10 March 2025, Woodside sent a reminder email to Northern Prawn Fishery licence holders following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) A licence holder from Northern Prawn Fishery asked to be removed from Woodside's mailing list.	(1) Woodside assessment: Woodside respects that the consultation process is voluntary. Woodside response: Woodside confirmed it had removed the licence holder from the mailing list.	(1) Not required.
While feedback has been received, there were no objections or claims.	Woodside has consulted AFMA, Northern Prawn Fishery Industry Pty Ltd, DAFF - Fisheries, CFA, and individual fishery licence holders. Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been	Woodside has assessed the potential for interaction with Commonwealth managed commercial fisheries issues in Section 4.10.1 of this EP. No additional measures or controls are required.

	accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Northern Prawn Fishery for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Northern Prawn Fishery on 16 October 2023 and 17 February 2025 based on their functions, interests or activities. • Woodside has sent follow-up emails seeking feedback on the proposed activities. • Woodside has provided Northern Prawn Fishery with the opportunity to provide feedback over a 28-month period.		

Christmas Island Line Fishery

Summary of information provided and record of consultation for this EP:		
• On 22 September 2023, Woodside emailed/sent a letter to Christmas Island Line Fishery individual licence holders advising of the proposed activity (Record of Consultation, reference 1.37 and 1.43) and provided a Consultation Information Sheet. • On 16 and 18 October 2023, Woodside sent a reminder letter/email to Christmas Island Line Fishery following up on the proposed activity (Record of Consultation, reference 2.3 and 2.17) and included a link/QR code to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted AFMA, DAFF - Fisheries, CFA, DITRDCA and individual relevant licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where	Woodside has assessed the potential for interaction with Commonwealth managed commercial fisheries in Section 4.10.1 of this EP.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Christmas Island Line Fishery for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Christmas Island Line Fishery on 22 September 2023 based on their functions, interests or activities. • Woodside has sent a follow-up email/letter seeking feedback on the proposed activities. • Woodside has provided Christmas Island Line Fishery with the opportunity to provide feedback over a 28-month period.		

Commonwealth Fisheries Association (CFA)

Summary of information provided and record of consultation for this EP: • On 22 September 2023, Woodside emailed CFA advising of the proposed activity (Record of Consultation, reference 1.37) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 18 October 2023, Woodside sent a reminder email to CFA following up on the proposed activity (Record of Consultation, reference 2.3) and included a link to the Consultation Information Sheet on Woodside's website. • On 17 February 2025, Woodside emailed CFA a consultation update on this EP (Record of Consultation, reference 3.6). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with CFA. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA. • On 10 March 2025, Woodside sent a reminder email to CFA following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted AFMA and DAFF – Fisheries and individual relevant licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with Commonwealth managed commercial fisheries Section 4.10.1 of this EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with CFA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to CFA on 22 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent follow-up emails seeking feedback on the proposed activities. • Woodside has provided CFA with the opportunity to provide feedback over a 28-month period.		

Tuna Australia

Historical Engagement:

- Between 15 March 2023 and 4 September 2023, in relation to other Woodside EPs, Tuna Australia:
 - Provided its position statement for engaging on EPs and project proposals.

- Advised that due to increased activity of proponents seeking to access offshore areas for various maritime developments, Tuna Australia could no longer coordinate consultation with offshore energy activities on behalf of its members without a services agreement in place.
- Advised it did not agree with proposed amendments made by Woodside to a draft services agreement.

Summary of information provided and record of consultation for this EP:

- On 22 September 2023, Woodside emailed Tuna Australia advising of the proposed activity (Record of Consultation, reference 1.37) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure Consultation on offshore petroleum environment plans: Information for the community.
- On 31 October 2023, Woodside sent a reminder email to Tuna Australia following up on the proposed activity (Record of Consultation, reference 2.11) and included a link to the Consultation Information Sheet on Woodside's website.
- On 6 November 2023, Tuna Australia emailed Woodside regarding this EP (SI Report, reference 13.1) and stated:
 - (1) It could assist to help Woodside reach concession owners and licence holders of potentially impacted fisheries to meet regulatory consultation requirements.
 - (2) Proponents must address planned fishing effort and development of the fishery, and focussing on historical fishing effort as the basis for validating the EP was a flawed assessment.
 - (3) Concern about recent consultation by energy companies using outdated mailing lists sourced from AFMA or elsewhere, while Tuna Australia's database was up to date and actively managed.
 - (2) It assisted energy companies to meet genuine and comprehensive consultation and reporting requirements. Its view was that consultation not conducted through its services was highly likely to be incomplete. Tuna Australia could not support this EP as it believed Woodside had fallen short of genuine and comprehensive consultation.
 - (4) Woodside should advise if it wished to progress with a services agreement.
- On 22 November 2023, Woodside responded thanking Tuna Australia for its email (SI Report, reference 13.2) and advised:
 - (1) Offshore proponents must consult relevant persons under the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.
 - (1) Woodside's consultation process identified relevant persons and provided them sufficient information and a reasonable period to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities.
 - (3) Woodside obtained contact details of individual Commonwealth fishing statutory fishing rights and fishing permit holders so that consultation was consistent with the Environment Regulations. As noted on its website, AFMA's expectation was that petroleum operators consulted with fishing operators about all activities and projects which may affect day-to-day fishing activities.
 - (1, 3) In addition to consulting individual licence holders, Woodside consulted relevant fishing industry associations and representative bodies such as Tuna Australia and Commonwealth Fisheries Association, and referred to the AFMA website to help inform which associations and bodies were relevant.
 - (1, 2, 3) While the management area for the Western Tuna and Billfish Fishery overlapped the Operational Area, based on AFMA data, no recent fishing effort had occurred within the Operational Area for at least the past 10 years. Despite this, Woodside chose to consult licence holders in this fishery.

- (4) The Offshore Environment Regulations did not require entry into services agreements in order to meet EP consultation requirements. Woodside has met its consultation obligations under the Environment Regulations and given Tuna Australia sufficient time and information.
- On 5 December 2023, Tuna Australia responded and thanked Woodside for its advice (SI Report, reference 13.3) and noted:
 - (2) It was concerned Woodside was electing to cherry-pick on how to meet statutory requirements, for example by focussing on fishing effort and disregarding important information in the OPGGS Act 2006 and Regulations.
 - (5) To progress consultation, it wished to pause the process while it took advice.
 - (1) It could assist Woodside to develop an EP that was improved and met regulatory requirements.
- On 20 December 2023, Woodside responded and thanked Tuna Australia for its response. (SI Report, reference 13.4). Woodside advised:
 - (2) Woodside met its legislative and regulatory requirements in the development and implementation of an EP.
 - (5) Woodside would continue to consult Tuna Australia and individual Commonwealth licence holders for proposed activities where relevant and as appropriate.
 - (1) Consultation was voluntary, and Tuna Australia could decide whether it wished to engage in the process or not.
- On 21 December 2023, Tuna Australia responded and thanked Woodside for its response (SI Report, reference 13.5). It noted:
 - (1, 4) The OPGGS Act 2006 clearly stated that when developing an EP, the proponent must demonstrate they could “carry on those activities in a manner that does not interfere with navigation, fishing or the conservation of the resources of the sea and seabed”. It had provided its industry position statement and, it was prepared to provide services to ensure the EP met legislative and regulatory requirements. Tuna Australia would ensure thorough and comprehensive consultation on the proposed EP and without this advice, any EP submitted to NOPSEMA would be incomplete, inadequate and would not meet regulatory requirements.
 - (1, 4) Tuna Australia would welcome comment from NOPSEMA on the content required in an EP to meet regulatory requirements when considering potential impacts on Australian tuna fisheries, especially in the context of knowing that it could comprehensively provide this information through a services agreement and Woodside has chosen not to engage.
 - (4) Tuna Australia was breaking for the festive season but urged Woodside to consider whether it would like to enter a services agreement and to advise accordingly in the week of 8 January 2024.

Ongoing engagement:

- Between 5 February 2024 and 17 July 2024, ongoing discussions between Woodside and Tuna Australia regarding other EPs included:
 - Concern from Tuna Australia regarding the provision and frequency of industry data from AFMA.
 - Reiteration from Woodside that it was willing to have a working relationship with Tuna Australia and that it had previously engaged on a draft agreement, however Tuna Australia had not been willing to make amendments to the draft agreement.
 - Tuna Australia providing an amended draft services agreement.
 - A meeting during which Woodside and Tuna Australia discussed fishing effort, Woodside’s methodology for determining relevancy, and an agreement that both parties were committed to genuine consultation.

– Woodside providing activities when a service agreement might be used due to the potential impact on the Western Tuna and Billfish Fishery. – Woodside confirming it would continue to consult Tuna Australia where historical catch effort overlapped the EMBA, but this wouldn't be under a services agreement. Services agreement would be deployed where there was historical catch effort in the Operational Area. – Tuna Australia advising it did not agree with the proposed way forward for managing consultation as its view was that catch history was only one factor that must be considered when planning activities, and that it wished to meet with Woodside again to discuss. – Woodside agreeing to reconvene with Tuna Australia and suggesting dates for the meeting.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Tuna Australia could provide comprehensive consultation for EPs and without its support, consultation was likely to be incomplete.	(1) Woodside assessment: Woodside disagrees that consultation would be incomplete without Tuna Australia support. Woodside has developed a methodology for identifying relevant persons, in accordance with regulation 25 of the Environment Regulations that is consistent with NOPSEMA's guideline. Woodside response: Woodside advised Tuna Australia that Woodside's consultation process identified relevant persons and provided them with sufficient information and a reasonable period in which to provide feedback.	(1) Woodside has assessed the potential for interaction with Commonwealth managed commercial fisheries in Section 4.10.1 of this EP and identified relevant persons in Appendix F, Table 1 of the EP in accordance with regulation 25 of the Environment Regulations.
(2) Noted that focusing on historical fishing effort was a flawed assessment for relevancy.	(2) Woodside assessment: Woodside disagrees that considering historical fishing effort, sourced from government agencies, in determining relevant fisheries is flawed. This information helps to determine where a fisher could typically fish and that this location could be impacted by a proposed activity. Woodside response: Woodside determined and advised that although the Western Tuna and Billfish Fishery management area overlapped the Operational Area, there had been no fishing effort in the Operational Area for at least the past 10 years. Despite this, Woodside chose to consult licence holders in the fishery.	(2) Woodside has assessed the potential for interaction with Commonwealth managed commercial fisheries in Section 4.10.1 of this EP and identified relevant persons in Appendix F, Table 1 of the EP in accordance with regulation 25 of the Environment Regulations.

(3) Concern about energy companies sourcing mailing lists from AFMA or elsewhere.	(3) Woodside assessment: Woodside considers purchasing contact details from a relevant Government agency is an appropriate means in which to contact relevant licence holders. Woodside response: Woodside obtains contact details of Commonwealth statutory fishing rights and fishing permit holders so that consultation is consistent with the Regulations, as per the expectation from AFMA that petroleum operators consulted with fishing operators about all activities and projects which may affect day-to-day fishing activities. In addition to consulting individual licence holders, Woodside consulted relevant fishing industry associations and representative bodies such as Tuna Australia and Commonwealth Fisheries Association, and referred to the AFMA website to help inform which associations and bodies were relevant.	(3) Not required.
(4) Recommended entering into a services agreement to support consultation.	(4) Woodside assessment: The Offshore Environment Regulations do not require the entry into a fee-for-service agreement in order to meet EP consultation requirements. Given Tuna Australia was not willing to make any amendments to the agreement to address Woodside's concerns, Woodside has not agreed to enter into an agreement. Outside of a fee-for-service agreement, Woodside is willing to explore options on how best to consult Tuna Australia and licence holders. Woodside response: Woodside advised that consultation regulations did not require entry into a services agreement in order to engage in consultation or for an EP to be complete. Woodside confirmed it respects that, for a relevant person, consultation was voluntary. Woodside advised Tuna Australia the level of feedback provided by an organisation, if any, was at the person or organisation's discretion, and Woodside was open to suggestions from	(4) Consultation with Tuna Australia is complete as reflected in Table 2 of Appendix F.

	Tuna Australia on ways to improve efficiency and simplicity for feedback.	
(5) Wished to pause discussions on the consultation process while it took advice.	(5) Woodside assessment: Woodside has provided sufficient information and a reasonable period to provide information on potential impacts to its interests, functions or activities. Woodside will continue to consult Tuna Australia when relevant. Woodside response: Woodside noted Tuna Australia's wish to pause the consultation process and advised it would continue to consult Tuna Australia and Commonwealth licence holders for proposed activities where relevant and as appropriate, and that consultation was voluntary, and Tuna Australia could decide whether it wished to engage in the process or not.	(5) Not required.
Woodside has addressed objections and claims as noted above.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Tuna Australia for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River		

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Tuna Australia on 22 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has addressed and responded to Tuna Australia over a 28-month period.

Pearl Producers Association

Summary of information provided and record of consultation for this EP:

- On 26 September 2023, Woodside emailed Pearl Producers Association advising of the proposed activity (Record of Consultation, reference 1.45) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 17 October 2023, Woodside sent a reminder email to Pearl Producers Association following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted AFMA, DAFF - Fisheries, and CFA. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with Commonwealth managed commercial fisheries in Section 4.10.1 of this EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Pearl Producers Association for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 161 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Pearl Producers Association on 26 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Pearl Producers Association with the opportunity to provide feedback over a 28-month period.

Northern Prawn Fishery Industry Pty Ltd

Summary of information provided and record of consultation for this EP:

- On 18 October 2023, Woodside emailed Northern Prawn Fishery Industry Pty Ltd advising of the proposed activity (Record of Consultation, reference 1.58) and provided a Consultation Information Sheet.
- On 2 November 2023, Woodside sent a reminder email to Northern Prawn Fishery Industry Pty Ltd following up on the proposed activity (Record of Consultation, reference 2.13) and included a link to the Consultation Information Sheet on Woodside's website.
- On 17 February 2025, Woodside emailed Northern Prawn Fishery Industry Pty Ltd a consultation update on this EP (Record of Consultation, reference 3.4). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with Northern Prawn Fishery Industry Pty Ltd. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 10 March 2025, Woodside sent a reminder email to Northern Prawn Fishery Industry Pty Ltd following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted AFMA, DAFF - Fisheries, CFA and individual Northern Prawn Fishery licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	Woodside has assessed the potential for interaction with Commonwealth managed commercial fisheries issues in Section 4.10.1 of this EP. No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under Regulation 25(1) and consultation with Northern Prawn Fishery Industry Pty Ltd for the purpose of 25(1) is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Northern Prawn Fishery Industry Pty Ltd on 18 October 2023 and 17 February 2025 based on their functions, interests or activities. • Woodside has sent follow-up emails seeking feedback on the proposed activities. • Woodside has provided Northern Prawn Fishery Industry Pty Ltd with the opportunity to provide feedback over a 28-month period.		

State Commercial fisheries and representative bodies

Western Australian Fishing Industry Council (WAFIC)

Summary of information provided and record of consultation for this EP: • On 21 September 2023, Woodside emailed WAFIC advising of the proposed activity (Record of Consultation, reference 1.31) and provided an overview and Consultation Information Sheet for distribution to licence holders in six State fisheries relevant to the Operational Area of the proposed activity. • On 21 September 2023, WAFIC responded thanking Woodside (SI Report, reference 14.1) for its email and: – (1) Advised it would send out the consultation material under its agreement with Woodside. – (2) Asked Woodside to confirm the relevance of the Marine Aquarium Fish Managed Fishery and Specimen Shell Managed Fishery, on the basis that the hand collection and diving methods used in this fishery were not applicable at the water depths of the proposed activity. • On 21 September 2023, Woodside responded thanking WAFIC for its email (SI Report, reference 14.2). Woodside also: – (2) Confirmed that on the basis of the activity water depths, it would remove Marine Aquarium Fish Managed Fishery and Specimen Shell Managed Fishery from relevant fisheries for this activity.

- (1) On 21 September 2023, Woodside emailed WAFIC with an amendment to the information intended for distribution to the relevant fisheries, including an additional line regarding notification of activities (SI Report, reference 14.3).
- (1) On 21 September 2023, WAFIC emailed Woodside (SI Report, reference 14.4) confirming it had sent the amended version of the consultation information to licence holders in the four fisheries relevant to the Operational Area for this EP: Mackerel Managed Fishery (Area 2), Pilbara Line Fishery, Pilbara Trap Managed Fishery, and West Coast Deep Sea Crustacean Managed Fishery.
- On 18 October 2023, Woodside sent a reminder email to WAFIC following up on the proposed activity (SI Report, reference 14.5). Woodside noted that it understood WAFIC may not consider it necessary to send a reminder email to individual licence holders but provided a link to the Consultation Information Sheet on Woodside's website for WAFIC's information and for distribution to licence holders at WAFIC's discretion.
- On 19 October 2023, WAFIC thanked Woodside for its email (SI Report, reference 14.6) and confirmed that:
 - (3) As per WAFIC's protocol to avoid consultation fatigue, it did not consider it necessary to issue a consultation reminder to commercial licence holders.
 - (4) WAFIC would take time to review the consultation material ahead of the closure of the consultation period.
- On 31 October 2023, Woodside sent an email (SI Report, reference 14.7) to WAFIC in which Woodside thanked WAFIC for:
 - (3) Its advice that consultation reminders were not necessary for individual licence holders.
 - (4) Its intention to review the consultation material.
- On 31 October 2023, WAFIC emailed Woodside (SI Report, reference 14.8). WAFIC:
 - (1) Confirmed it had not received any feedback or concerns from licence holders regarding this EP.
 - (5) Confirmed that given the activity in this EP was standard business for Woodside, it had no further comment at this stage.
 - (6) Confirmed and agreed that Woodside would send all notifications regarding activities to WAFIC.
 - Requested to be consulted on any future development activities considered for the other operations EP.
- On 1 November 2023, Woodside responded thanking WAFIC for its email (SI Report, reference 14.9) and:
 - (5) Noted there was no feedback or concerns from licence holders and no further comment from WAFIC.
 - (6) Noted that as this and another EP included ongoing operations no activity notifications were expected, but confirmed it would provide WAFIC with start and end activity notifications for the associated drilling, construction and installation activities related to the other operations EP.
- On 6 November 2023, WAFIC responded thanking Woodside for its email (SI Report, reference 14.10).
- On 20 February 2025, Woodside emailed WAFIC a consultation update on this EP (Record of Consultation, reference 3.16). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with WAFIC. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA. Woodside noted there were no changes to the State fisheries relevant to the Operational Area and asked WAFIC to advise if it considered further consultation was required with fishery licence holders.
- On 11 March 2025, Woodside sent a reminder email to WAFIC following up on the proposed activity (Record of Consultation, reference 4.3). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) WAFIC advised it would send consultation material to relevant licence holders, and, following the consultation period, confirmed it received no feedback or concerns from licence holders.	(1) Woodside assessment: Woodside notes relevant licence holders received the consultation information via WAFIC and accepts there was no feedback or concerns raised. Woodside response: Woodside thanked WAFIC for distributing the consultation information to relevant licence holders and for confirming no feedback or concerns were raised by the licence holders.	(1) Not required.
(2) Asked Woodside to clarify the relevance to the Operational Area of two fisheries based on the collection and diving methods.	(2) Woodside assessment: Woodside assessed WAFIC's feedback regarding the relevancy of two fisheries and based on WAFIC's expertise on water depths and the methods of hand collection and diving, determined it would not consider the Marine Aquarium and Specimen Shell fisheries relevant to the Operational Area for this EP. Woodside response: Woodside confirmed it would not consider the Marine Aquarium and Specimen Shell fisheries as relevant to this EP, based on WAFIC's advice.	(2) Woodside has assessed the potential for interaction with State managed commercial fisheries in Section 4.10.1 of this EP. Woodside has updated its assessment of relevancy for consultation purposes (see Appendix F, Table 1) to reflect WAFIC's advice and consultation guidelines.
(3) Advised it did not consider it necessary to send reminder emails to licence holders for this activity.	(3) Woodside assessment: Woodside accepts WAFIC's advice that reminder emails are not necessary for individual licence holders. Woodside response: Woodside acknowledged WAFIC's advice that it was not necessary to send reminder emails to individual licence holders.	(3) Not required.
(4) Confirmed it would take time to review the consultation material before the end of the consultation period.	(4) Woodside assessment: Woodside noted WAFIC would review the consultation material. Woodside response: Woodside thanked WAFIC for reviewing the consultation material.	(4) Not required.

(5) Noted it had no further comment on the EP at this stage.	(5) Woodside assessment: Woodside accepts that WAFIC has no comment on the EP at this time. Woodside response: Woodside noted WAFIC had reviewed the consultation material and did not have further comment on the EP at this stage.	(4) Not required.
(6) Confirmed Woodside should send all notifications regarding activities to WAFIC.	(6) Woodside assessment: As this EP involves ongoing operations, no activity notifications are expected. Woodside response: Woodside confirmed to WAFIC that there were not expected to be activity notifications for the ongoing operations involved with this EP.	(6) Not required.
While feedback has been received, there were no objections or claims.	Woodside has consulted DPIRD, WAFIC and individual licence holders (via WAFIC). Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with WAFIC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times,		

Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to WAFIC on 20 September 2023 and 20 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure Consultation on offshore petroleum environment plans: Information for the community.
- Woodside has sent follow-up emails seeking feedback on the proposed activities.
- Woodside has addressed and responded to WAFIC over a 28-month period.

Mackerel Managed Fishery (Area 2)

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, WAFIC, on behalf of Woodside, emailed Mackerel Managed Fishery (Area 2) individual licence holders advising of the proposed activity (Record of Consultation, reference 1.32) and provided a Consultation Information Sheet.
- As per advice from WAFIC regarding its consultation guidelines, no follow-up email was required to the Mackerel Managed Fishery (Area 2).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received.	Woodside has consulted DPIRD, WAFIC and individual licence holders (via WAFIC). Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with State managed commercial fisheries in Section 4.10.1 of this EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under Regulation 25 and consultation with Mackerel Managed Fishery (Area 2) for the purpose of 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Mackerel Managed Fishery (Area 2), via WAFIC, on 21 September 2023 based on their functions, interests or activities.
- Woodside has provided the Mackerel Managed Fishery (Area 2) with the opportunity to provide feedback over a 25-month period.

West Coast Deep Sea Crustacean Managed Fishery

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, WAFIC, on behalf of Woodside, emailed West Coast Deep Sea Crustacean Managed Fishery individual licence holders advising of the proposed activity (Record of Consultation, reference 1.32) and provided a Consultation Information Sheet.
- As per advice from WAFIC regarding its consultation guidelines, no follow-up email was required to the West Coast Deep Sea Crustacean Managed Fishery.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received.	Woodside has consulted DPIRD, WAFIC and individual relevant licence holders (via WAFIC). Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with State managed commercial fisheries in Section 4.10.1 of this EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 and consultation with West Coast Deep Sea Crustacean Managed Fishery for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Consultation Information provided to West Coast Deep Sea Crustacean Managed Fishery, via WAFIC, on 21 September 2023 based on their functions, interests or activities.
- Woodside has provided the West Coast Deep Sea Crustacean Managed Fishery with the opportunity to provide feedback over a 28-month period.

Pilbara Line Fishery (Condition)

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, WAFIC, on behalf of Woodside, emailed Pilbara Line Fishery individual licence holders advising of the proposed activity (Record of Consultation, reference 1.32) and provided a Consultation Information Sheet.
- As per advice from WAFIC regarding its consultation guidelines, no follow-up email was required to the Pilbara Line Fishery (Condition).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received.	Woodside has consulted DPIRD, WAFIC and individual relevant licence holders (via WAFIC). Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with State managed commercial fisheries in Section 4.10.1 of this EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 and consultation with Pilbara Line Fishery (Condition) for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Pilbara Line Fishery (Condition), via WAFIC, on 21 September 2023 based on their functions, interests or activities.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 169 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Woodside has provided Pilbara Line Fishery (Condition) with the opportunity to provide feedback over a 28-month period.

Pilbara Trap Managed Fishery

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, WAFIC, on behalf of Woodside, emailed Pilbara Trap Managed Fishery individual licence holders advising of the proposed activity (Record of Consultation, reference 1.32) and provided a Consultation Information Sheet.
- As per advice from WAFIC regarding its consultation guidelines, no follow-up email was required to the Pilbara Trap Managed Fishery.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received.	Woodside has consulted DPIRD, WAFIC and individual relevant licence holders (via WAFIC). Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with State managed commercial fisheries in Section 4.10.1 of this EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 and consultation with Pilbara Trap Managed Fishery for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Pilbara Trap Managed Fishery, via WAFIC, on 21 September 2023 based on their functions, interests or activities.
- Woodside has provided Pilbara Trap Managed Fishery with the opportunity to provide feedback over a 28-month period.

Western Rock Lobster Council

Summary of information provided and record of consultation for this EP: - On 30 October 2023, Woodside emailed Western Rock Lobster Council advising of the proposed activity (Record of Consultation, reference 1.59) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 13 November 2023, Woodside sent a reminder email to Western Rock Lobster Council following up on the proposed activity (Record of Consultation 2.15) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted DPIRD and WAFIC. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with State managed commercial fisheries in Section 4.10.1 of this EP. Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Western Rock Lobster Council for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to Western Rock Lobster Council on 30 October 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided Western Rock Lobster Council with the opportunity to provide feedback over a 26-month period.		

Aquaculture Council of Western Australia (ACWA)

Summary of information provided and record of consultation for this EP:

- On 19 February 2025, Woodside emailed ACWA advising of the proposed activity (Record of Consultation, reference 1.110) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 10 March 2025, Woodside sent a reminder email to ACWA following up on the proposed activity (Record of Consultation, reference 2.21) and included a link to the Consultation Information Sheet on Woodside's website.
- On 10 March 2025, ACWA responded (SI Report, reference 80.1). ACWA:
 - (1) Advised the activities were significantly distant from aquaculture enterprises to result in direct impacts.
- On 21 March 2025, Woodside responded thanking ACWA for its feedback (SI Report, reference 80.2). Woodside:
 - (1) Noted that ACWA considered the activities to be a significant distance from aquaculture enterprises and that direct impacts were therefore unlikely.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Activities significantly distant to aquaculture sites.	(1) Woodside assessment: Woodside notes ACWA considers direct impacts on aquaculture sites to unlikely based on the distance from activities. Woodside response: Woodside thanked ACWA for its feedback and noted ACWA's comments on the distance between the activities and aquaculture sites.	(1) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with State managed commercial fisheries in Section 4.10.1 of this EP. No additional measures or controls are required.

Outcomes of consultation

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with ACWA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation information provided to ACWA on 19 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has addressed and responded to ACWA over an 11-month period.

Recreational marine users and representative bodies

Exmouth Recreational Marine Users

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Exmouth Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 1.6) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Exmouth Recreational Marine Users following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted Recfishwest, Marine Tourism WA, WA Game Fishing Association and individual recreational marine users. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Exmouth Recreational Marine Users for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Exmouth Recreational Marine Users on 14 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Exmouth Recreational Marine Users with the opportunity to provide feedback over a 28-month period.		

Gascoyne Recreational Marine Users

Summary of information provided and record of consultation for this EP:		
• On 22 September 2023, Woodside sent a letter to Gascoyne Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 1.41) and provided a Consultation Information Sheet and referred to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder letter to Gascoyne Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 2.5) and included a QR code link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside has consulted Recfishwest, Marine Tourism WA, WA Game Fishing Association and individual recreational marine users.	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Gascoyne Recreational Marine Users for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Gascoyne Recreational Marine Users on 22 September 2023 based on their functions, interests or activities. • Woodside has referred Gascoyne Recreational Marine Users to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up letter seeking feedback on the proposed activities. • Woodside has provided Gascoyne Recreational Marine Users with the opportunity to provide feedback over a 28-month period.		

Pilbara/Kimberley Recreational Marine Users

Summary of information provided and record of consultation for this EP:		
• On 22 September 2023, Woodside sent a letter to Pilbara/Kimberley Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 1.41) and provided a Consultation Information Sheet and referred to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder letter to Pilbara/Kimberley Recreational Marine Users following up on the proposed activity (Record of Consultation, reference 2.5) and included a QR code link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

No feedback, objections or claims received despite follow-up.	Woodside has consulted Recfishwest, Marine Tourism WA, WA Game Fishing Association and individual recreational marine users. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Pilbara/Kimberley Recreational Marine Users for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Pilbara/Kimberley Recreational Marine Users on 22 September 2023 based on their functions, interests or activities. • Woodside has referred Pilbara/Kimberley Recreational Marine Users to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up letter seeking feedback on the proposed activities. • Woodside has provided Pilbara/Kimberley Recreational Marine Users with the opportunity to provide feedback over a 28-month period.		

Lombadina Aboriginal Corporation (LAC)

LAC have been identified as a relevant person through their functions, interests or activities as a Pilbara/Kimberley Recreational Marine User, as identified in Table 1. LAC is not a Prescribed Body Corporate under the *Native Title Act 1993 (Cth)* and associated regulations.

Historical engagement: • On 25 July 2023, Woodside emailed LAC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information (SI Report, reference 59.1). This email also reiterated Woodside's request that LAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult. No response was received to this email.
--

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Summary of information provided and record of consultation for this EP:

- On 6 October 2023, Woodside emailed LAC advising of the proposed activity (Record of Consultation, reference 1.97) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that LAC and its members may have within the EMBA, information on how LAC would like to engage, and requested that LAC provide information to other individuals as required.
- On 10 October 2023, Woodside met with LAC in person for a consultation meeting on this activity (SI Report, reference 59.2). Woodside explained the activity, noting that it is a 5-year submission review and had been operating since 2008 and was located near Exmouth. Woodside described the EMBA and how the EMBA is created. Woodside talked through the NOPSEMA guidelines.
 - (1) LAC asked a question about how Woodside drilled into the ocean floor. Woodside said they would provide an animation drilling video that demonstrated the process.
 - Woodside asked LAC if there were any cultural values that they would like Woodside to know about noting that there is the option to require information to be kept confidential. Woodside asked whether LAC had any further questions or concerns in relation to this EP. LAC responded no to both queries.
 - Woodside said it was able to fund future meetings.
- (1) On 17 October 2023, Woodside emailed LAC thanking them for the 10 October 2023 meeting and reaffirmed that feedback on EPs can be provided over the life of the EP and does not need to occur before the activity commences (SI Report, reference 59.3). Woodside also provided a drilling video as requested by LAC at the meeting. No response has been received.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) LAC requested more information about how Woodside drills into the ocean floor.	(1) Woodside assessment: Woodside acknowledged LAC's request for more information about drilling. Woodside response: Woodside responded to LAC's requests for information by explaining the process and providing a video. No further information was requested on this topic.	(1) Existing controls considered sufficient, as described in Section 6 and 7.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will	Based on the engagement to date, no additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with LAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on LAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. - Provided Consultation Information Sheet and Consultation Summary Sheets developed by Indigenous staff to LAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Asked for the consultation and information sheets to be distributed to members and individuals. - Woodside has provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan". - Advised that LAC's can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). Reasonable Period: - Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023). - Woodside commenced consultation with LAC in October 2023. - Woodside has addressed and responded to LAC over 26 months, demonstrating a "reasonable" period of consultation. Woodside asked LAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified. Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP). Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on LAC'S functions, interests or activities.		

Karratha Recreational Marine Users

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Karratha Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 1.6) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Karratha Recreational Marine Users following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted Recfishwest, Marine Tourism WA, WA Game Fishing Association and individual recreational marine users. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Karratha Recreational Marine Users for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Karratha Recreational Marine Users on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email to Karratha Recreational Marine Users seeking feedback on the proposed activities.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 179 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Woodside has provided the Karratha Recreational Marine Users with the opportunity to provide feedback over a 28-month period.

West Coast Recreational Marine Users

Summary of information provided and record of consultation for this EP:

- On 22 September 2023, Woodside sent a letter to West Coast Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 1.41) and provided a Consultation Information Sheet and referred to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder letter to West Coast Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 2.5) and included a QR code link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted Recfishwest, Marine Tourism WA, WA Game Fishing Association and individual recreational marine users. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with West Coast Recreational Marine Users for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 180 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Consultation Information provided to West Coast Recreational Marine Users on 22 September 2023 based on their functions, interests or activities.
- Woodside has referred West Coast Recreational Marine Users to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow up letter seeking feedback on the proposed activities.
- Woodside has provided West Coast Recreational Marine Users with the opportunity to provide feedback over a 28-month period.

South Coast Recreational Marine Users

Summary of information provided and record of consultation for this EP:

- On 22 September 2023, Woodside sent a letter to South Coast Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 1.41) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to South Coast Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 2.5).
- On 4 October 2023, a fishing charter operator consulted as part of the South Coast Recreational Marine Users emailed Woodside (SI Report, reference 15.1) and commented they were vehemently against the proposal of FPSOs in the Carnarvon Basin due to the risks to marine and shore environments which, in their opinion, outweighed the projects. Their concerns regarded:
 - (1) The potential of a crude oil spill and/or the release of hydrocarbons and the effect on marine life, Ningaloo Reef, and coastline.
 - (2) The impact on shoreline bird life and marine mammals such as whales.
 - The drilling of two new wells associated with another EP (which was consulted in conjunction with this EP), and the impact on the World Heritage-listed reef and coast.
 - Seismic blasting carried out to search for the new wells associated with the other EP, and the impact on the natural environment including fauna.
- On 12 October 2023, Woodside emailed the fishing charter operator thanking them for their email, and asked to confirm they were referencing activities relating to this EP, and which stakeholder group they were part of (SI Report, reference 15.2).
- On 12 October 2023, the fishing charter operator responded to Woodside confirming their comments were in relation to this EP and that they were part of the coastal tourism stakeholder group (SI Report, reference 15.3).
- On 27 November 2023, Woodside responded (SI Report, reference 15.4) and advised:
 - (1) In accordance with Woodside's risk assessment for this EP, a worst-case loss of well containment has been defined as a 'highly unlikely' event. In the highly unlikely event of a hydrocarbon release, Woodside has a well-developed oil response management framework, including specific responses for sensitive areas such as Ningaloo Marine Park, and an Oil Pollution First Strike Plan which guides the immediate response.

- (2) The potential impacts on bird life and marine animals depend on the timing, duration and extent of a spill in the highly unlikely event this occurs. Response options to mitigate environmental impacts include tracking the spill, the use of protective barriers, shoreline clean-up techniques, prevention of the spill contacting wildlife where feasible and rehabilitation of wildlife where contact occurs, and long-term monitoring of sensitive species and sites after a spill event.
- The other EP included production from a proposed additional two wells via subsea tieback to existing infrastructure. There were no planned impacts on the nearby World Heritage area or coastline as a result of the proposed additional wells or ongoing activities proposed under the other EP. The proposed activity to drill the two wells would be subject to a separate and future EP, for which Woodside would undertake consultation.
- There were no seismic activities associated with the other EP.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Fishing charter operator's concerns about the potential of a crude oil spill and its impact on marine life, reef and coastline.	(1) Woodside assessment: Woodside has assessed the risk of worst-case loss of well containment as 'highly unlikely'. Woodside response: Woodside advised a worst-case loss of well containment had been defined as a 'highly unlikely' event and it had a well-developed oil response management framework including an Oil Pollution First Strike Plan.	(1) The risks associated with unplanned activities are assessed in Section 6.8 of this EP.
(2) Fishing charter operator's concerns about the impact on shoreline birds and marine mammals.	(2) Woodside assessment: Woodside has developed response plans to mitigate or avoid impacts on shoreline birds and marine mammals in the highly unlikely event of a hydrocarbon release. Woodside response: Woodside advised the impact on animals depended on the timing, duration and extent of a spill. Response options included tracking, protective barriers, shoreline clean-up techniques, prevention of contact with wildlife and rehabilitation of wildlife where contact occurs, and long-term monitoring of species and sites after a spill.	(2) The potential environmental impacts of planned and unplanned activities are assessed in Section 6.7 and 6.8 of this EP.
Woodside has addressed claims and objections as noted above.	Woodside has consulted Recfishwest, Marine Tourism WA, WA Game Fishing Association and individual recreational marine users.	Woodside has consulted South Coast Recreational Marine Users in the course of preparing this EP. Woodside has assessed the claims or objections raised

	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	by a South Coast Recreational Marine User. No additional measures or controls have been put in place. Woodside considers the measures and controls described within this EP address the potential impact from the proposed activities on the South Coast Recreational Marine Users' functions, interests or activities. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with South Coast Recreational Marine Users for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to South Coast Recreational Marine Users on 22 September 2023 based on their functions, interests or activities. • Woodside has referred South Coast Recreational Marine Users to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow up letter seeking feedback on the proposed activities. • Woodside has addressed and responded to South Coast Recreational Marine Users over a 28-month period.		

Christmas Island Recreational Marine Users

Summary of information provided and record of consultation for this EP:

- On 14 September 2023 and 3 October 2023, Woodside emailed/sent a letter to Christmas Island Recreational Marine Users advising of the proposed activity (Record of Consultation, reference 1.6 and 1.54) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

On 16 October 2023 and 24 October 2023, Woodside sent a reminder email or letter to Christmas Island Recreational Marine Users following up on the proposed activities (Record of Consultation, reference 2.1 and 2.8) and included a link/QR code to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted Recfishwest, Marine Tourism WA, WA Game Fishing Association and individual recreational marine users. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.5 of the EP).	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Christmas Island Recreational Marine Users for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to Christmas Island Recreational Marine Users on 14 September/3 October 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email/letter seeking feedback on the proposed activities. - Woodside has provided the Christmas Island Recreational Marine Users with the opportunity to provide feedback over a 25-month period.		

Recfishwest

Summary of information provided and record of consultation for this EP: On 14 September 2023, Woodside emailed Recfishwest advising of the proposed activity (Record of Consultation, reference 1.6) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 16 October 2023, Woodside sent a reminder email to Recfishwest following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 25 October 2023, Recfishwest responded (SI Report, reference 16.1) thanking Woodside for its email and:
 - (1) Advised it had no objection to the proposed activities.
 - (2) Requested to be kept informed as activities progressed, given that the areas surrounding the operations were accessed by recreational fishers.
 - Noted another EP (consulted in conjunction with this EP) included production from an additional two wells and the operation of a new fuel gasline, with associated drilling, construction and installation activities to be subject to separate future EPs.
- On 1 November 2023, Woodside responded (SI Report, reference 16.2) thanking Recfishwest for its feedback. Woodside:
 - (1) Noted Recfishwest had no objections to the proposed activities.
 - (2) Confirmed it would continue to inform Recfishwest on the activities' progression.
 - Confirmed it would consult Recfishwest on future EPs related to the other operations EP.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Recfishwest had no objection to the proposed activities.	(1) Woodside assessment: Woodside noted Recfishwest had no objections. Woodside response: Woodside acknowledged that Recfishwest had no objections to the activity.	(1) Not required.
(2) Recfishwest requested to be kept informed as activities progressed, given the areas surrounding the operations were accessed by recreational fishers.	(2) Woodside assessment: Woodside accepts that Recfishwest should be kept informed as activities progress. Woodside response: Woodside confirmed it would keep Recfishwest informed as the activities progressed, given that the areas surrounding the operation were accessed by recreational fishers.	(2) Woodside engages in ongoing consultation throughout the life of an EP and will provide notification of significant change, as appropriate, to Recfishwest as referenced in Section 7.15 of the EP.
While feedback has been received, there were no objections or claims.	Woodside has consulted Recfishwest, Marine Tourism Association of WA, WA Game Fishing Association and relevant individual recreational marine users.	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide

	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Recfishwest for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Recfishwest on 14 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has addressed and responded to Recfishwest over a 28-month period.		

Marine Tourism WA

Summary of information provided and record of consultation for this EP:
• On 14 September 2023, Woodside emailed Marine Tourism WA advising of the proposed activity (Record of Consultation, reference 1.6) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to Marine Tourism WA following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted Recfishwest, WA Game Fishing Association and individual recreational marine users. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Marine Tourism WA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Marine Tourism WA on 14 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Marine Tourism WA with the opportunity to provide feedback over a 28-month period.		

WA Game Fishing Association

Summary of information provided and record of consultation for this EP: • On 14 September 2023, Woodside emailed WA Game Fishing Association advising of the proposed activity (Record of Consultation, reference 1.6) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to WA Game Fishing Association following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted Recfishwest, WA Game Fishing Association and individual recreational marine users. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has implemented a consultation program to advise relevant persons of the PAP and provide opportunity to raise objections or claims, as referenced as PS 1.4 in this EP. No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with WA Game Fishing Association for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to WA Game Fishing Association on 14 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided WA Game Fishing Association with the opportunity to provide feedback over a 28-month period.		

Titleholders and Operators

Chevron Australia/ Osaka Gas Gorgon/ Tokyo Gas Gorgon (now MidOcean Gorgon)/ JERA Gorgon

Summary of information provided and record of consultation for this EP: • On 15 September 2023, Woodside emailed Chevron Australia advising of the proposed activity (Record of Consultation, reference 1.12) and provided a Consultation Information Sheet, GIS shape files and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside asked that the consultation information be forwarded to Chevron's Joint Venture participants Osaka Gas Gorgon, Tokyo Gas Gorgon and Jera Gorgon for feedback. On 16 October 2023, Woodside sent a reminder email to Chevron Australia following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Chevron Australia for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to Chevron Australia on 15 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided Chevron Australia with the opportunity to provide feedback over a 28-month period.		

Western Gas

Summary of information provided and record of consultation for this EP: On 15 September 2023, Woodside emailed Western Gas advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>.
This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Controlled Ref No: PYHSE-E-001 Revision: 5 Page 189 of 1047 Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 16 October 2023, Woodside sent a reminder email to Western Gas following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Western Gas for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided Western Gas on 15 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided Western Gas with the opportunity to provide feedback over a 28-month period.		

Exxon Mobil Australia Resources Company

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Exxon Mobil Australia advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

- On 16 October 2023, Woodside sent a reminder email to Exxon Mobil Australia following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Exxon Mobil Australia for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to Exxon Mobil Australia on 14 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided Exxon Mobil Australia with the opportunity to provide feedback over a 28-month period.		

Shell Australia

Summary of information provided and record of consultation for this EP:

- On 15 September 2023, Woodside emailed Shell Australia advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

- On 16 October 2023, Woodside sent a reminder email to Shell Australia following up on the proposed activity ((Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shell Australia for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to Shell Australia on 15 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided Shell Australia with the opportunity to provide feedback over a 28-month period.		

BP Developments Australia

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed BP Developments Australia advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

• (1) On 03 October 2023, BP Developments Australia responded (SI Report, reference 17.1) thanking Woodside for its email and advising it had no objections or further feedback at that time. • (1) On 03 October 2023, Woodside responded (SI Report, reference 17.2) thanking BP Developments Australia for its email and acknowledged it had no objections or feedback at that time.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) BP Developments Australia advised it had no objections or further feedback.	(1) Woodside assessment: Woodside notes that BP Developments Australia has no objections or feedback. Woodside response: Woodside acknowledged BP Developments Australia had no objections or feedback.	(1) Not required.
While feedback has been received, there were no objections or claims.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with BP Developments for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to BP Developments on 14 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>.		

- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has addressed and responded to BP Developments Australia over a 28-month period.

Carnarvon Energy

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Carnarvon Energy advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- (1) On 28 September 2023, Carnarvon Energy responded thanking Woodside for its email and confirming it had no further request for information after reviewing the consultation material (SI Report, reference 18.1).
- (1) On 29 September 2023, Woodside responded thanking Carnarvon Energy for its email and noted it had no further requests for information (SI Report, reference 18.2).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Carnarvon Energy advised it had no further requests for information.	(1) Woodside assessment: Woodside noted Carnarvon Energy has no comments. Woodside response: Woodside thanked Carnarvon Energy and noted it had no further requests for information.	(1) Not required.
Whilst feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Carnarvon Energy for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Carnarvon Energy on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has addressed and responded to Carnarvon Energy over a 28-month period.

PE Wheatstone

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed PE Wheatstone advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- **(1)** On 14 September 2023, PE Wheatstone responded thanking Woodside for its email and confirming it had no concerns on the consultation information provided (SI Report, reference 19.1).
- **(1)** On 21 September 2023, Woodside responded thanking PE Wheatstone for its email and acknowledged it had no concerns (SI Report, reference 19.2).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) PE Wheatstone advised it had no concerns on the consultation information provided.	(1) Woodside assessment: Woodside notes that PE Wheatstone has no concerns. Woodside response: Woodside thanked PE Wheatstone and acknowledged that it had no concerns.	(1) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with PE Wheatstone for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to PE Wheatstone on 14 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has addressed and responded to PE Wheatstone over a 28-month period.		

Kyushu Electric Wheatstone

Summary of information provided and record of consultation for this EP:		
• On 14 September 2023, Woodside emailed Kyushu Electric Wheatstone advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to Kyushu Electric Wheatstone following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Kyushu Electric Wheatstone for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Kyushu Electric Wheatstone on 14 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Kyushu Electric Wheatstone with the opportunity to provide feedback over a 28-month period.		

Eni Australia

Summary of information provided and record of consultation for this EP:		
• On 14 September 2023, Woodside emailed Eni Australia advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to Eni Australia following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Eni Australia for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Eni Australia on 14 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Eni Australia with the opportunity to provide feedback over a 28-month period.		

Finder Energy No 16

Summary of information provided and record of consultation for this EP:
• On 14 September 2023, Woodside emailed Finder Energy advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email (Record of Consultation, reference 2.1) following up on the proposed activity and included a link to the Consultation Information Sheet on Woodside's website. • (1) On 17 October 2023, Finder Energy responded thanking Woodside for its email and advising it had no feedback on the proposed activities (SI Report, reference 20.1). • (1) On 17 October 2023, Woodside responded thanking Finder Energy for its email and noted it had no feedback on the proposed activities (SI Report, reference 20.2).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Finder Energy advised it had no feedback on the proposed activities.	(1) Woodside assessment: Woodside notes Finder Energy has no feedback on the proposed activities. Woodside response: Woodside thanked Finder Energy and acknowledged it had no feedback on the proposed activities.	(1) Not required.
Whilst feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Finder Energy No 16 for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Finder Energy on 14 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has addressed and responded to Finder Energy No 16 over a 28-month period.		

Jadestone

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Jadestone advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Jadestone following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Jadestone for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Jadestone on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided the Jadestone with the opportunity to provide feedback over a 28-month period.

KUFPEC

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed KUFPEC advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to KUFPEC following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with KUFPEC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to KUFPEC on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided KUFPEC with the opportunity to provide feedback over a 28-month period.

Santos NA Energy Holdings / Santos Ltd / Santos WA Northwest / Santos Offshore / Santos WA Southwest / Santos (BOL) / Santos WA PVG / Santos Browse

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Santos advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- (1) On 20 September 2023, Santos responded thanking Woodside for its email and advising it had no comments or objections to the proposed activities (SI Report, reference 21.1).
- (1) On 22 September 2023, Woodside responded thanking Santos for its email and noted it had no comments or objections (SI Report, reference 21.2).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Environment Plan Controls
(1) Santos advised it had no comments or objections regarding the proposed activities.	(1) Woodside assessment: Woodside accepts that Santos has no comments or objections. Woodside response: Woodside thanked Santos and noted it had no comments or objections.	(1) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Santos for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Santos on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has addressed and responded to Santos over a 28-month period.

Coastal Oil and Gas

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Coastal Oil and Gas advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Coastal Oil and Gas following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Coastal Oil and Gas for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Coastal Oil and Gas on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Coastal Oil and Gas with the opportunity to provide feedback over a 25-month period.

Bounty Oil and Gas

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Bounty Oil and Gas advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Bounty Oil and Gas following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Bounty Oil and Gas for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Bounty Oil and Gas on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Bounty Oil and Gas with the opportunity to provide feedback over a 28-month period.

OMV Australia / Sapura OMV Upstream

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed OMV Australia / Sapura OMV Upstream advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to OMV Australia / Sapura OMV Upstream following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with OMV Australia / Sapura OMV Upstream for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 205 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to OMV Australia / Sapura OMV Upstream on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided OMV Australia/ Sapura OMV Upstream with the opportunity to provide feedback over 26-month period.

KATO Energy / KATO Corowa / KATO NWS / KATO Amulet

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Kato Energy / KATO Corowa advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to KATO Energy / KATO Corowa following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with KATO Energy/ KATO Corowa for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Kato Energy / KATO Corowa on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided KATO Energy / KATO Corowa with the opportunity to provide feedback over a 28-month period.

INPEX Alpha

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed INPEX Alpha advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to INPEX Alpha following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with INPEX Alpha for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 207 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to INPEX Alpha on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided INPEX Alpha with the opportunity to provide feedback over a 28-month period.

JX Nippon O&G Exploration (Australia)

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed JX Nippon O&G Exploration (Australia) advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to JX Nippon O&G Exploration (Australia) following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with JX Nippon O&G Exploration (Australia) for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 208 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to JX Nippon O&G Exploration (Australia) on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided JX Nippon O&G Exploration (Australia) with the opportunity to provide feedback over a 28-month period.

Vermilion Oil & Gas

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Vermilion Oil & Gas advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Vermilion Oil & Gas following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Vermilion Oil & Gas for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 209 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Vermilion Oil & Gas on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Vermilion Oil & Gas with the opportunity to provide feedback over a 28-month period.

3D Oil Ltd

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed 3D Oil Limited advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to 3D Oil Limited following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with 3D Oil Limited for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 210 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to 3D Oil Limited on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided 3D Oil Limited with the opportunity to provide feedback over a 28-month period.

AGI Tubridgi Pty Ltd

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed AGI Tubridgi Pty Ltd advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to AGI Tubridgi Pty Ltd following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with AGI Tubridgi Pty Ltd for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 211 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to AGI Tubridgi Pty Ltd on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided AGI Tubridgi Pty Ltd with the opportunity to provide feedback over a 28-month period.

Allasso Energy Pty Ltd

Summary of information provided and record of consultation for this EP:

- On 26 September 2023, Woodside sent a letter to Allasso Energy Pty Ltd advising of the proposed activity (Record of Consultation, reference 1.46) and provided a Consultation Information Sheet and referred to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder letter to Allasso Energy Pty Ltd following up on the proposed activity (Record of Consultation, reference 2.6 and included a QR code link to the Consultation Information Sheet on Woodside's website).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Allasso Energy Pty Ltd for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Allasso Energy Pty Ltd on 26 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow up letter seeking feedback on the proposed activities.
- Woodside has provided Allasso Energy Pty Ltd with the opportunity to provide feedback over a 28-month period.

AWE Perth Pty Ltd

Summary of information provided and record of consultation for this EP:

- On 26 September 2023, Woodside sent a letter to AWE Perth Pty Ltd advising of the proposed activity (Record of Consultation, reference 1.46) and provided a Consultation Information Sheet and referred to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder letter to AWE Perth Pty Ltd following up on the proposed activity (Record of Consultation, reference 2.6) and included a QR code link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with AWE Perth Pty Ltd for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to AWE Perth on 26 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow up letter seeking feedback on the proposed activities.
- Woodside has provided AWE Perth Pty Ltd with the opportunity to provide feedback over a 28-month period.

Good Earth Energy Corporation

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Good Earth Energy Corporation advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Good Earth Energy Corporation following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Good Earth Energy Corporation for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 214 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Good Earth Energy Corporation on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided the Good Earth Energy Corporation with the opportunity to provide feedback over a 28-month period.

Pathfinder Energy Pty Ltd

Summary of information provided and record of consultation for this EP:

- On 26 September 2023, Woodside emailed Pathfinder Energy Pty Ltd advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Pathfinder Energy Pty Ltd following up on the proposed activity (Record of Consultation, reference 2.1) and included a QR code link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.5.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Pathfinder Energy Pty Ltd for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 215 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Pathfinder Energy Pty Ltd on 26 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Pathfinder Energy Pty Ltd with the opportunity to provide feedback over a 28-month period.

PBE Operations Pty Ltd

Summary of information provided and record of consultation for this EP:

- On 26 September 2023, Woodside sent a letter to PBE Operations Pty Ltd advising of the proposed activity (Record of Consultation, reference 1.46) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder letter to PBE Operations Pty Ltd following up on the proposed activity (Record of Consultation, reference 2.6) and included a QR code link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.5.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with PBE Operations Pty Ltd for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 216 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to PBE Operations Pty Ltd on 26 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow up letter seeking feedback on the proposed activities.
- Woodside has provided PBE Operations Pty Ltd with the opportunity to provide feedback over a 28-month period.

Pilot Energy Ltd

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Pilot Energy Ltd advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Pilot Energy Ltd following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Pilot Energy Ltd for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 217 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Pilot Energy Ltd on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Pilot Energy Ptd Ltd with the opportunity to provide feedback over a 28-month period.

Petro China International Investment

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Petro China International Investment advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Petro China International Investment following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Petro China International Investment for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 218 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Petro China International Investment on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Petro China International Investment with the opportunity to provide feedback over a 28-month period.

Skye Napoleon / Skye Petroleum / Skye Resources

Summary of information provided and record of consultation for this EP:

- On 27 September 2023, Woodside emailed Skye Napoleon; Petroleum; Resources advising of the proposed activity (Record of Consultation, reference 1.47) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Skye Napoleon; Petroleum; Resources following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Skye Napoleon; Petroleum; Resources for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Skye Napoleon; Petroleum; Resources on 27 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Skye Napoleon; Petroleum; Resources with the opportunity to provide feedback over a 28-month period.

Triangle Energy

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Triangle Energy advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Triangle Energy following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Triangle Energy for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 220 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Triangle Energy on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Triangle Energy with the opportunity to provide feedback over a 28-month period.

VRX Silica Ltd

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed VRX Silica advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to VRX Silica following up on the proposed activities (Record of Consultation, reference 2.1).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with VRX Silica for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 221 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to VRX Silica on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided VRX Silica with the opportunity to provide feedback over a 28-month period.

Beach Energy

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Beach Energy advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Beach Energy following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Beach Energy for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Beach Energy on 14 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Beach Energy with the opportunity to provide feedback over a 28-month period.

NZOG Compass

Summary of information provided and record of consultation for this EP:

- On 27 September 2023, Woodside emailed NZOG Compass advising of the proposed activity (Record of Consultation, reference 1.48) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to NZOG Compass following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with NZOG Compass for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 223 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to NZOG Compass on 27 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided NZOG Compass with the opportunity to provide feedback over a 28-month period.

Origin Energy Browse

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Origin Energy Browse advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 27 September 2023, Woodside forwarded its email and consultation information to another Origin Energy email address (SI Report, reference 22.1) after receiving a delivery failure on the initial email.
- On 16 October 2023, Woodside sent a reminder email to Origin Energy Browse following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 17 October 2023, Origin Energy sent an email to Woodside thanking it for getting in touch and asking to confirm its details (SI Report, reference 22.2).
- On 7 November 2023, Woodside emailed Origin Energy and confirmed it was contacting Origin Energy Browse as a titleholder in regard to consultation for this EP. Woodside provided another link to the Consultation Information Sheet on its website (SI Report, reference 22.3).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 224 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Origin Energy Browse for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Origin Energy Browse on 27 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Origin Energy Browse with the opportunity to provide feedback over a 28-month period.

Mid West Geothermal Power Pty Ltd

Summary of information provided and record of consultation for this EP:

- On 14 September 2023, Woodside emailed Strike Energy, on behalf of Mid West Geothermal Power Pty Ltd, advising of the proposed activity (Record of Consultation, reference 1.5) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Strike Energy following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 26 February 2025, after acquiring new contact details for Mid West Geothermal Power Pty Ltd, Woodside sent a consultation update to Mid West Geothermal Power Pty Ltd email address, advising of the additional modelling undertaken since initial consultation and subsequent changes to the EMBA (Record of Consultation, reference 3.20). Woodside provided an updated Consultation Information Sheet.
- On 26 February 2025, Mid West Geothermal Power Pty Ltd responded thanking Woodside for contacting it (SI Report, reference 78.1). Mid West Geothermal Power advised:
 - **(1)** Given its asset was in the onshore portion of the Northern Perth Basin, Mid West Geothermal Power had no additional feedback on the EP.
- On 20 March 2025, Woodside responded thanking Mid West Geothermal Power for its feedback (SI Report, reference 78.2). Woodside:
 - **(1)** Noted that given the location of Mid West Geothermal Power's asset in the Northern Perth Basin, Mid West Geothermal Power had no additional feedback on the EP.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Based on the location of its asset, Mid West Geothermal Power had no feedback.	(1) Woodside assessment: Woodside notes Mid West Geothermal Power has no additional feedback based on the location of its assets. Woodside response: Woodside thanked Mid West Geothermal Power for its feedback.	(1) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Strike Energy / Mid West Geothermal Power Pty Ltd for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Mid West Geothermal Power Pty Ltd via Strike Energy on 14 September 2023 and 26 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities.		

- Woodside has provided Strike Energy / Mid West Geothermal Power Pty Ltd with the opportunity to provide feedback over 26-month period.

Mitsui E&P Australia (MEPAU)

Summary of information provided and record of consultation for this EP:

- On 18 February 2025, Woodside emailed MEPAU advising of the proposed activity (Record of Consultation, reference 1.109) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 10 March 2025, Woodside sent a reminder email to MEPAU following up on the proposed activity (Record of Consultation, reference 2.22) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with MEPAU for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to MEPAU on 18 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided MEPAU with the opportunity to provide feedback over an 11-month period.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 227 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

DeepC Store

Summary of information provided and record of consultation for this EP:

- On 18 February 2025, Woodside emailed DeepC Store advising of the proposed activity (Record of Consultation, reference 1.109) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 10 March 2025, Woodside sent a reminder email to DeepC Store following up on the proposed activity (Record of Consultation, reference 2.22) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DeepC store for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to DeepC Store on 18 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided DeepC Store with the opportunity to provide feedback over an 11-month period.

Energy Resources

Summary of information provided and record of consultation for this EP:

- On 18 February 2025, Woodside emailed Energy Resources advising of the proposed activity (Record of Consultation, reference 1.109) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 10 March 2025, Woodside sent a reminder email to Energy Resources following up on the proposed activity (Record of Consultation, reference 2.22) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Energy Resources for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Energy Resources on 18 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Energy Resources with the opportunity to provide feedback over an 11-month period.

InCapture

Summary of information provided and record of consultation for this EP: - On 18 February 2025, Woodside emailed InCapture advising of the proposed activity (Record of Consultation, reference 1.109) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 19 February 2025, InCapture responded to Woodside (SI Report, reference 79.1). InCapture provided feedback that did not relate to an adverse impact of the proposed activity. - On 21 March 2025, Woodside responded thanking InCapture for its feedback (SI Report, reference 79.2).		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
While feedback has been received, there were no claims or objections.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with InCapture for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to InCapture on 18 February 2025 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has provided InCapture with the opportunity to provide feedback over an 11-month period.		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

SK Earthon

Summary of information provided and record of consultation for this EP:

- On 18 February 2025, Woodside emailed SK Earthon advising of the proposed activity (Record of Consultation, reference 1.109) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 10 March 2025, Woodside sent a reminder email to SK Earthon following up on the proposed activity (Record of Consultation, reference 2.22) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with SK Earthon for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to SK Earthon on 18 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided SK Earthon with the opportunity to provide feedback over an 11-month period.

H2EX Ltd

Summary of information provided and record of consultation for this EP:

- On 18 February 2025, Woodside emailed H2EX Ltd advising of the proposed activity (Record of Consultation, reference 1.109) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 10 March 2025, Woodside sent a reminder email to H2EX Ltd following up on the proposed activity (Record of Consultation, reference 2.22) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with H2EX Ltd for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to H2EX on 18 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided H2EX Ltd with the opportunity to provide feedback over an 11-month period.

Beagle No 1

Summary of information provided and record of consultation for this EP:

- On 17 February 2025, Woodside emailed Beagle No 1 advising of the proposed activity (Record of Consultation, reference 1.108) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 10 March 2025, Woodside sent a reminder email to Beagle No 1 following up on the proposed activity (Record of Consultation, reference 2.21) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Beagle No 1 for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Beagle No 1 on 18 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Beagle No 1 with the opportunity to provide feedback over an 11-month period.

Melbana Energy Limited

Summary of information provided and record of consultation for this EP:

- On 18 February 2025, Woodside emailed Melbana Energy Limited advising of the proposed activity (Record of Consultation, reference 1.109) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 10 March 2025, Woodside sent a reminder email to Melbana Energy Limited following up on the proposed activity (Record of Consultation, reference 2.22) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Melbana Energy Limited for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Melbana Energy Limited on 18 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Melbana Energy Limited with the opportunity to provide feedback over an 11-month period.

Longreach Capital

Summary of information provided and record of consultation for this EP:

- On 17 February 2025, Woodside emailed Longreach Capital advising of the proposed activity (Record of Consultation, reference 1.108) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 10 March 2025, Woodside sent a reminder email to Longreach Capital following up on the proposed activity (Record of Consultation, reference 2.21) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Longreach Capital for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Longreach Capital on 18 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Longreach Capital with the opportunity to provide feedback over an 11-month period.

Peak Industry Representative bodies

Australian Energy Producers (AEP)

Summary of information provided and record of consultation for this EP:

- On 13 September 2023, Woodside emailed AEP advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to AEP following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Australian Energy Producers (AEP) for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to AEP on 13 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided AEP with the opportunity to provide feedback over a 28-month period.

Traditional Custodians and nominated representative corporations

Murujuga Aboriginal Corporation (MAC)

MAC is established under the Burrup and Maitland Industrial Estates Agreement and is the representative body for the Traditional Custodians for Murujuga being the Ngarluma, the Mardudhunera, the Yaburara, the Yindjibarndi and the Wong-Goo-Tt-Oo peoples (collectively Ngarda-Ngarli). MAC is the cultural authority for Murujuga and is responsible for the management and protection of its cultural values.

Historical engagement

- On 18 July 2023, Woodside emailed MAC NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*.
- On 26 July 2023, Woodside emailed MAC *Woodside's planned Program of Ongoing Engagement with Traditional Custodians*.

Please see *Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report)* for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 17 November 2023, Woodside emailed MAC advising of the proposed activity (Record of Consultation, reference 1.63) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that MAC and its members may have within the EMBA, information on how MAC would like to engage, and requested that MAC provide information to other individuals as required.
- On 17 November 2023, MAC emailed Woodside confirming receipt of materials (SI Report reference, 23.1).
- On 5 January 2024, Woodside emailed MAC a table displaying the status of Woodside's outstanding EP consultations with MAC. Woodside offered to set up a consultation meeting to work through this table with MAC. (SI Report, reference 23.2).

Ongoing engagement:

- On 23 April 2024, MAC emailed Woodside (SI Report, reference 23.3) about another activity and raised the following:
 - (1) The lack of broader-scale bathymetric information on the submerged landscape and the potential for impact on Jinna (Songlines).
 - (2) That MAC had no specific knowledge of tangible or intangible heritage that may be impacted.
 - (3) The size of the EMBA and management procedures in place to protect cultural values in addition to environmental values.
- On 26 April 2024, Woodside emailed MAC advising it would seek information to respond to MAC's feedback (SI Report, reference 23.4).
- On 8 May 2024, Woodside emailed MAC to provide further information (SI Report, reference 23.5) including:
 - (1) Woodside's continued support to work with MAC to undertake mapping of areas significant to MAC.
 - (1) Woodside's continued support to undertake further ethnographic surveys focussed on Jinna at MAC's convenience.
 - (2) That Woodside welcomed MAC's advice on identifying cultural features and values in the absence of information from further surveys and mapping.
 - (3) How the EMBA is determined.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 2 August 2024, MAC emailed Woodside a letter relating to another EP (SI Report, reference 23.6). Matters relating to this EP include:
 - (4) MAC's advice that activities that could potentially affect the natural movement or behaviour of marine species may impact cultural values.
 - (5) MAC's request that the protection of environmental values be assessed separately from the protection of cultural values.
 - (6) That MAC expects to be consulted about any activity located near Murujuga and informed if there is an environmental incident whereby Murujuga falls within the possible impact zone.
- (6) On 2 August 2024, Woodside responded to MAC's email confirming it would inform MAC of all projects located near Murujuga and in the very unlikely case of an environment incident (SI Report, reference 23.7).
- On 9 September 2024, Woodside invited MAC to share stories and receive updates from Woodside at its Monthly Luncheon for Traditional Owners (SI Report, reference 83.1).
- On 17 September 2024, Woodside emailed MAC responses to matters raised in correspondence on 2 August 2024 (SI Report, reference 23.8). The letter stated:
 - (4, 5) Woodside assesses potential cultural impacts on marine species including controls for mammal migration paths and behaviour collaboratively with environmental impacts.
 - (6) Woodside actively seeks ongoing engagement and consultation with MAC on its cultural interests, activities and functions.
 - Woodside is available to meet with MAC.
- On 25 September 2024, Traditional Owner members from MAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.2).
- On 3 October 2024, Woodside invited MAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 23 October 2024 (SI Report, reference 83.3).
- On 23 October 2024, Traditional Owner members from MAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.5).
- On 21 November 2024, NYFL emailed Woodside a letter advising that due to the passing of a Senior Elder, Sorry Business was underway in the Roebourne area (SI Report, reference 23.9).
- On 4 March 2025, Woodside emailed MAC an invitation to share stories and receives updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 5 March 2025 (SI Report, reference 83.7).
- On 5 March 2025, Traditional Owner members from MAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.8).
- On 24 March 2025, Woodside emailed MAC an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 26 March 2025 (SI Report, reference 83.10).
- On 26 March 2025, Traditional Owner members from MAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside discussed the process for writing EPs and how it communicates feedback from groups to NOPSEMA (SI Report, reference 83.11).

- On 7 April 2025, Woodside emailed MAC an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 8 April 2025 (SI Report, reference 83.12).
- On 8 April 2025, Traditional Owner members from MAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.13).
- On 22 August 2025, MAC emailed Woodside about an unrelated EP (SI Report, reference 23.10). MAC asked for clarification about Woodside's process for compiling records about Cultural Values and provided this feedback:
 - (7) Additional culturally valued species: stingrays, sharks, crustaceans, octopus, sea stars, sea urchins, sponges and molluscs. (8) Any changes to the feeding, breeding or migratory behaviour of culturally significant species would impact significantly on subsistence, cultural and ceremonial activities.
 - (9) Submerged landscape: potential impact to Aboriginal heritage, the submerged coastline at initial occupation of the region, landscape features that would have defined the first travel routes used to move through Country.
 - (10) Feedback that fish traps are not limited to Conzinc, Angel and Gidley as significant.
 - (11) Feedback that harvesting squid at Conzinc Bay is one of many subsistence activities that have been and continue to be practiced across the archipelago.
- On 22 August 2025, MAC emailed Woodside a letter about an unrelated EP (SI Report, reference 23.11). Matters relevant to this email included:
 - (10) Protection of environmental values should be assessed separately to protection of cultural values.
 - (8) Activities that could potentially affect the natural movement, migration and/or other behaviour of marine species (including sea birds) may have an impact on the cultural interpretation of the seasonal landscape and seascape and associated cultural behaviours.
- On 28 August 2025, Woodside responded by email to MAC's feedback about Cultural Values (SI Report, reference 23.12). Woodside:
 - (7, 8, 9, 10, 11) Provided MAC with an expanded Cultural Values table (Appendix A) which included sources of information and additional detail.
 - (7, 8, 9, 10, 11) Explained how Woodside sources information about Cultural Values for EPs.
 - (7, 8, 9, 10, 11) Invited MAC to review the Cultural Values table and provide further feedback if necessary.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) MAC have previously raised concerns lack of broader-scale bathymetric information on the submerged landscape and the potential for impact on Jinna (Songlines).	(1) Woodside assessment: Woodside acknowledges MAC's position that there is a lack of bathymetric information. Woodside notes that this EP is for continued operation of existing infrastructure. The EP includes the Unexpected Finds Procedure (Section 7.9) which addresses the risk of discovery of potential underwater cultural material. Woodside response: Woodside has previously proposed to MAC that MAC work to determine a scope	(1) Cultural features and heritage values including Jinna (Songlines) are identified and assessed in Sections 4.9 and Section 6.

	of works to determine further bathymetric information on the area. This proposal is under consideration by MAC and Woodside remains supportive of undertaking this work. Woodside also remains supportive of conducting further ethnographic surveys with MAC, following the initial phase of works in 2020 which focussed on Jinna and their connection from Murujuga to inland areas.	
(2) On 23 April 2024, MAC advised it had no specific knowledge of tangible or intangible heritage that might be impacted.	(2) Woodside assessment: Woodside uses multiple sources of information including publicly available literature, heritage databases and feedback from consultation in order to identify tangible and intangible cultural features of the environment, as described in Sections 4.9 and 6.11. Woodside response: Woodside recognises the difficulty MAC faces in identifying tangible and intangible heritage on the submerged continental shelf in the absence of bathymetric mapping and ethnographic assessment of the results. In June 2023 Woodside proposed a project to MAC that would undertake mapping of areas identified by MAC as a priority in understanding this landscape. MAC has not accepted this proposal and through several meetings with MAC between July 2023 and February 2024 Woodside understands that MAC intends to issue a modified proposal to conduct this work.	(2) Cultural features and heritage values are identified and assessed in Sections 4.9 and Section 6 of the EP.
(3) On 23 April 2024, MAC noted the size of the EMBA and management procedures in place to protect cultural values.	(3) Woodside assessment: Woodside aligns with industry guidance in developing the EMBA. Many replicate model simulations are completed to understand the potential behaviour of the worst-case release under various wind, wave and current conditions and these are combined to create an overall EMBA. Woodside welcomes any advice MAC provides on identifying cultural features or heritage values within the EMBA. Woodside response: The EMBA for this activity is determined by a highly unlikely release of marine	(3) Woodside's Oil Spill Preparedness and Response Mitigation Assessment is in Appendix H. The First Strike Plan is in Appendix I.

	diesel as the result of damage to the production facility or vessel collision. Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill.	
(4) MAC stated that any development could potentially affect the natural movement, migration and/or other behaviour of marine species, and may have an impact on the cultural interpretation of the seasonal landscape, seascape and associated cultural behaviours.	(4) Woodside assessment: Woodside considers the potential cultural impacts on marine species including impacts and associated controls for marine mammal paths and behaviour. Woodside response: Woodside has undertaken numerous environmental studies that form part of the EPs and has an ongoing commitment to environmental studies and research some of which are set out on Woodside's website. Woodside also committed to ongoing consultation with MAC in relation to environmental impacts including to marine life.	(4) Woodside has assessed impacts and risks to marine species in Section 6 of the EP. Items relating to MAC appear in section 4.9. Woodside has assessed impacts and risks to marine species in Section 6: Environmental impact and risk assessment, performance outcomes, standards and measurements criteria.
(5) During ongoing engagement, MAC stated that the protection of environmental values should be assessed separately from the protection of cultural values in EPs.	(5) Woodside assessment: Woodside undertakes assessments for both environmental and cultural values. These are considered individually and collaboratively. Woodside response: Woodside has responded to MAC and informed it that environmental and cultural impacts have been assessed both individually and collaboratively.	(5) Woodside's First Nations Cultural Features and Heritage Values Assessment is in section 6.10.
(6) During ongoing engagement MAC stated that it expects to be consulted about any activity located near Murujuga and contacted in the event of an environmental incident whereby Murujuga falls within the possible impact zone.	(6) Woodside assessment: Woodside acknowledges MAC's advice that it should be consulted about any activity located near Murujuga and in the unlikely case of an environmental incident. Woodside response: Woodside has advised MAC that it will inform MAC of projects proposed on Murujuga.	(6) Under Woodside's methodology for identifying relevant persons, MAC is considered a relevant person for EPs with an EMBA covering/in proximity to Murujuga. Woodside's Oil Spill Preparedness and Response Mitigation Assessment is in Appendix H of the EP. Woodside's First Strike Plan is in Appendix I of the EP Woodside's emergency response protocols (Section 7.15) include a review of potentially impacted stakeholders,

		including Traditional Owners. Woodside engages with Traditional Owners for applicable events.
(7) MAC has previously advised on the following Cultural Values: Marine species: • Whales, totemic importance. • Dolphins, cultural ceremonies. • Dugongs, food source. • Fish, cultural ceremonies. • Sea Snakes, culturally important. • Turtles, Songlines • Coral, attract fish and other species • Seagrass, provide protection for animals. Locations include Conzinc Bay, and between Angel and Gidley Islands. On 22 August 2025, MAC further advised Woodside that these species also had cultural value: • Stingrays • Sharks • Crustaceans • Octopus • Sea star • Sea urchins • Sponges • Molluscs	(7) Woodside assessment: This value has been identified via feedback from MAC. Woodside response: At the beginning of consultation for EPs unrelated to this activity, Woodside provided MAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information. On 22 August 2025, MAC provided additional information relating to its cultural values. Woodside has updated its records and informed MAC that it will apply these updates to this and future EPs.	(7) Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6
(8) Any changes to the feeding, breeding or migratory behaviour of culturally significant species would impact significantly on subsistence, cultural and ceremonial activities	(8) Woodside assessment: Woodside acknowledges this feedback and has updated its Cultural Values records for MAC. Woodside has also included this information in the EP.	(8) Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.

	Woodside response: Woodside has provided MAC with details of Woodside's updated Cultural Values records.	
(9) Cultural Value: Submerged landscape: potential impact to Aboriginal heritage, the submerged coastline at initial occupation of the region, landscape features that would have defined the first travel routes used to move through Country.	(9) Woodside assessment: This value has been identified via feedback from MAC. Woodside response: At the beginning of consultation for EPs unrelated to this activity, Woodside provided MAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information. On 22 August 2025, MAC provided additional information about this Cultural Value. Woodside has amended its records and informed MAC of these changes.	(9) Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.
(10) Cultural Value: Feedback that fish traps are not limited to Conzinc, Angel and Gidley as significant.	(10) Woodside assessment: This value has been identified via feedback from MAC. Woodside response: At the beginning of consultation for EPs unrelated to this activity, Woodside provided MAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information. On 22 August 2025, MAC provided additional information about this Cultural Value. Woodside has amended its records and informed MAC of these changes.	(10) Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.
(11) Cultural Value: Feedback that harvesting squid at Conzinc Bay is one of many subsistence activities that have been and continue to be practiced across the archipelago.	(11) Woodside assessment: This value has been identified via feedback from MAC. Woodside response: At the beginning of consultation for EPs unrelated to this activity, Woodside provided MAC with a list of the cultural values known to Woodside that it believed relevant to the group and	(11) Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.

	invited it to make changes or provide additional information. On 22 August 2025, MAC provided additional information about this Cultural Value. Woodside has amended its records and informed MAC of these changes.	
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with MAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on MAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. - Provided Consultation Information Sheet and Summary Information Sheets developed by Indigenous staff to MAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity in a digestible, plain English format. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Asked for the consultation and information sheets to be distributed to members and individuals as required. - Woodside has provided NOPSEMA's brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan". - Advised that MAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). Reasonable Period: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.		

- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).
- Woodside commenced consultation with MAC in November 2023.
- Woodside has addressed and responded to MAC over 26 months, demonstrating a “reasonable” period of consultation.

Woodside asked MAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on MAC’s functions, interests or activities.

Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)

NTGAC is established under the *Native Title Act 1993* (Cth) by the Baiyungu people to represent the Baiyungu people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values. YMAC is the Native Title Representative Body (NTRB) for the Aboriginal corporations in the Yamatji and Pilbara regions, including NTGAC. NTRBs exist to provide assistance to native title claimants and holders in relation to their native title rights.

Historical engagement:

- (1) On 17 July 2023, in response to consultation requests on activities not relevant to this EP, NTGAC (via YMAC) provided Woodside with a proposed consultation framework for PBCs to consult with oil and gas companies.
- On 19 July 2023, Woodside emailed NTGAC (via YMAC) NOPSEMA’s *Consultation Guidelines*, *Consultation Brochure*, and *Draft Policy for Managing Gender-Restricted Information*. This email also reiterated Woodside’s request that NTGAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.
- On 26 July 2023, Woodside emailed NTGAC (via YMAC) Woodside’s planned *Program of Ongoing Engagement with Traditional Custodians*.
- (2) On 15 August 2023, Woodside presented to NTGAC (via YMAC) about several activities unrelated to this EP. At the meeting, NTGAC expressed interest in whales and whale sharks. (2) Woodside noted NTGAC’s interest in whales and whale sharks, which will be documented in EPs.

Please see *Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report)* and *Angel Facility Operations EP (Appendix F and SI Report)*.

Summary of information provided and record of consultation for this EP:

- On 23 October 2023, Woodside emailed NTGAC (via YMAC) advising of the proposed activity (Record of Consultation, reference 1.64) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside’s website). The email requested information on the interests that

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

NTGAC and its members may have within the EMBA, information on how NTGAC would like to engage, and requested that NTGAC provide information to other individuals as required.

- On 13 November 2023, Woodside emailed NTGAC (via YMAC) noting that the previous email had included the Consultation Information Sheet, not the Summary Information Sheet. Woodside attached a copy of the Summary Information Sheet (SI Report, reference 24.1).

Ongoing engagement:

- (1) On 14 December 2023, Woodside emailed NTGAC (via YMAC) (SI Report, reference 24.2) attaching the Program of Ongoing Consultation and advised that Woodside wanted to progress negotiations on consultation frameworks with groups represented by YMAC (including NTGAC). Woodside proposed the protocol would include (among other things):
 - The procedures Woodside will follow when a submission requires consultation.
 - Initial and ongoing consultation in relation to activities.
 - Agreement as to how Woodside will provide NTGAC with the information NTGAC requires to make free, prior and informed decisions about Woodside's EPs.
 - Agreement as to how NTGAC will provide feedback and how that can best be represented in EPs.
 - An agreed schedule of rates for NTGAC's participation in consultation.
 - How the outputs of the consultations will be managed.
- On 21 December 2023, Woodside emailed NTGAC (via YMAC) with a list of activities, as requested, including this activity (SI Report, reference 24.3).
- (1) On 28 February 2024, Woodside emailed NTGAC (via YMAC) with a letter (SI Report, reference 24.4) setting out the draft terms of an agreement between NTGAC and Woodside, the agreement (among other things) included the following topics:
 - Sufficient Information.
 - Reasonable Period.
 - Provision of Information.
 - Objection or claims.
 - Publications.
 - Cost and termination.
- (1) On 29 February 2024, NTGAC (via YMAC) emailed Woodside acknowledging receipt of the information (SI Report, reference 24.5).
- Between 16 May and 19 June 2024, Woodside and NTGAC (via YMAC) exchanged emails about a request by Woodside to meet with the NTGAC Board to discuss EPs (SI Report, references 24.6 – 24.10). While the possibility of Woodside attending NTGAC's July Board meeting was briefly mentioned, this meeting did not go ahead. Woodside and NTGAC instead met in September 2024.
- Between 27 June and 10 July 2024, Woodside and NTGAC (via YMAC) exchanged emails about a draft consultation agreement provided by Woodside in February. (1) NTGAC (via YMAC) requested Woodside pay costs associated with reviewing the agreement. (1) During the exchange Woodside agreed to pay costs quoted by NTGAC (via YMAC) to review the agreement (SI Report, references 24.11 – 24.14).

- Between 30 July and 20 August 2024, NTGAC (via YMAC) and Woodside exchanged emails to arrange a half day meeting on 12 September 2024 in Carnarvon (SI Report, references 24.15 – 24.17).
- On 6 September 2024, Woodside spoke to NTGAC on the phone (SI Report, reference 24.18). Matters discussed included the agenda for the 12 September 2024 meeting including EPs intended to be presented.
- Between 10 September and 11 September 2024, Woodside and NTGAC (via YMAC) exchanged emails about meeting on 12 September 2024 (SI Report, references 24.19 – 24.25).
- On 12 September 2024, Woodside and NTGAC met (SI Report, reference 24.26), at which Woodside:
 - Confirmed attendees were familiar with EPs and NOPSEMA. Attendees acknowledged they were.
 - Displayed a map of its activities in WA.
 - Explained the EP consultation process.
- On 3 October 2024, Woodside emailed NTGAC an invitation to share stories and receive updates from Woodside at its Monthly Luncheon for Traditional Owners (SI Report, reference 83.3).
- On 10 October 2024, Woodside emailed NTGAC regarding this EP, referring to correspondence sent to NTGAC on 23 October 2023, 13 November 2023, and 21 December 2023 and correspondence from NTGAC on 29 February 2024 (SI Report, reference 24.27), including notifying NTGAC that:
 - Consultation for this EP opened on 23 October 2023 when Woodside provided NTGAC consultation information, and closed on 20 November 2023 allowing Woodside to prepare the EP.
 - The EP was publicly available on NOPSEMA's website (and provided a link) and is being assessed by NOPSEMA.
 - Woodside would shortly resubmit this EP for further assessment and that the EP will be substantively the same as that published on the website and will include relevant feedback obtained during consultation.
 - Any feedback, claims or objections about the adverse impacts (if any) relating to the EP that NTGAC would like Woodside to consider as part of this resubmission, be provided to Woodside no later than 24 October 2024.
 - Feedback can be provided by email, phone, directly to the engagement team, or directly to NOPSEMA and providing a range of contact details.
 - (1) Woodside acknowledged discussions relating to framework agreements had been ongoing since July 2023 and is yet to be completed, and that consultation for this EP had occurred in parallel.
 - Woodside had provided sufficient information, allowed a reasonable period of time for consultation and given a reasonable opportunity to provide details about the adverse impacts of the activity on NTGAC's functions, interests or activities, and looked forward to progressing discussions with NTGAC on framework agreements separately.
 - Feedback could continue to be provided during the life of the EP, including after consultation for the EP had closed, during assessment of the EP, and after the EP has been accepted by NOPSEMA, and that Woodside would continue to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP.

- Should a claim or objection be received following the acceptance of the EP, that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside would apply its Management of Change and Review process as appropriate.
- On 21 October 2024, Woodside emailed NTGAC (via YMAC) a reminder about this EP (SI Report, reference 24.8). The email included:
 - A reference to the consultation email update for this EP sent to NTGAC on 10 October September 2024.
 - A reminder that consultation for the preparation of this EP resubmission closes on 24 October 2024.
 - A request for information on how NTGAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
 - Woodside's commitment to managing gender-restricted or other culturally sensitive information, and working with NTGAC to understand how it would like information to be managed.
 - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
 - A request for NTGAC to provide information about the proposed activity to other individuals, as required.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) NTGAC (via YMAC) to develop first draft of a Consultation Agreement.	(1) Woodside assessment: Woodside is supportive of a sustainable consultation framework and has a commitment to ongoing consultation with Traditional Custodians for the life of an EP. Woodside response: Separate from consultation for this activity under regulation 25 of the Environment Regulations, Woodside has sent a draft agreement to NTGAC via YMAC in February 2024. This would be used to frame ongoing consultation to occur as part of Woodside's commitment to consultation post regulation 25 of the Environment Regulations. The draft agreement is under review by NTGAC/YMAC.	(1) Woodside is implementing a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i> , (Appendix G). This includes continued engagement regarding NTGAC's proposed Consultation Framework and General Report which will be applied to ongoing consultation.
(2) NTGAC have expressed a general interest in whales and whale sharks.	(2) Woodside assessment: When developing EPs, Woodside considers potential cultural impacts on marine species including impacts and associated controls with whales and whale sharks. Woodside response: Woodside recognises that whales and other species of totemic importance need	(2) Woodside has assessed impacts and risks to marine species in Section 6 of the EP. Items relating to NTGAC appear in section 4.9.

	to be protected, including their populations and migration patterns. As assessed in Section 6, Woodside considers that when the impacts and risks to marine species, including potential totemic species, have been reduced to ALARP and an acceptable level in offshore areas, the potential impacts and risks to cultural values associated with coastal Indigenous connection with, or traditional uses of marine species and associated ecosystems in nearshore coastal waters are also reduced to ALARP and an acceptable level.	
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with NTGAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on NTGAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. - Provided Consultation Information Sheet and Summary Information Sheets developed by Indigenous staff to NTGAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity in a digestible, plain English format. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Asked for the consultation and information sheets to be distributed to members and individuals as required. - Woodside has provided NOPSEMA's brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan".		

- Advised that NTGAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).
- Woodside provided further information to NTGAC on 10 October 2024, which included:
 - The dates Woodside had previously contacted NTGAC about the proposed activity.
 - That the original consultation period commenced on 23 October and closed on 20 November 2023.
 - A link to the publicly available EP on NOPSEMA's website.
 - Confirmation that Woodside will resubmit the EP for further assessment.
 - That feedback, claims or objections about the adverse impacts (if any) relating to the EP that NTGAC would like Woodside to consider as part of the resubmission, should be provided to Woodside by 24 October 2024.
 - That discussions relating to framework agreements can occur in parallel to EP consultation.
 - That feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).
- Woodside commenced consultation with NTGAC in October 2023, with a further consultation period in October 2024.
- Woodside has addressed and responded to NTGAC over 26 months, demonstrating a "reasonable" period of consultation.

Woodside asked NTGAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on NTGAC's functions, interests or activities.

Buurabalayji Thalanyji Aboriginal Corporation (BTAC)

BTAC is established under the *Native Title Act 1993* (Cth) by the Thalanyji people to represent the Thalanyji people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 20 February 2023, BTAC sent a letter to Woodside in relation to another project, confirming that:
 - (1) BTAC, on behalf of Thalanyji people, had interests in archaeological sites on nearshore islands including the Montebello islands, Barrow Island and Mackerel Islands, and had a cultural obligation to care for Sea Country and environmental values.
 - (2) BTAC had not specifically developed values regarding Sea Country into a format that could be articulated for consultation.
 - (3) BTAC sought support from Woodside to enable BTAC to define and articulate its values on Sea Country in a manner that could be more clearly understood by the offshore sector, government, and the community.
 - (4) BTAC proposed that Woodside enter into a consultation or engagement framework agreement to set out a process for ongoing consultation.
- On 19 July 2023, Woodside emailed BTAC NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*.
- On 26 July 2023, Woodside emailed BTAC Woodside's planned *Program of Ongoing Engagement with Traditional Custodians*.
- (1, 2, 3) On 31 July 2023, Woodside emailed 3 letters to BTAC, one of which outlined support for an ethnographic assessment to:
 - Identify Sea Country values generally sufficient to inform all Woodside EPs.
 - Identify any work necessary to clarify or define the offshore areas that are relevant to the Thalanyji People.

Please see *Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report)* for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 11 October 2023, Woodside emailed BTAC advising of the proposed activity (Record of Consultation, reference 1.65) and provided a Summary Information Sheet (including a link to the detailed information sheet on Woodside's website). The email requested information on the interests that BTAC and its members may have within the EMBA.
- (4) On 13 and 31 October 2024, BTAC's legal representative emailed Woodside about the contents of a proposed consultation agreement (SI Report, references 25.1 – 25.2).
- On 1 November 2023, BTAC (via legal representative) emailed Woodside inviting Woodside to present on Woodside activities at a 1-hour slot in the BTAC Common Law Holders meeting on 27 November 2023 (SI Report, reference 25.3).
- On 1 November 2023, Woodside emailed BTAC (via legal representative) accepting the offer to present at the Common Law Holders meeting and offering to pay costs for the meeting (SI Report, reference 25.4).
- (4) Between 2 and 18 November 2023, Woodside and BTAC's legal representative exchanged emails about the contents of the proposed consultation agreement (SI Report, reference 25.5 – 25.8).

Ongoing engagement:

- (2, 3) On 27 November 2023, Woodside attended and presented at the BTAC Common Law Holders meeting (SI Report, reference 25.9). The one-hour timeslot did not allow for taking feedback in relation to EPs, but the Common Law Holders were made aware that Woodside had been attempting to meet since January 2023 on

activities and had agreed to pay for reasonable consultation costs as well as fund Sea Country mapping but that these offers had not been taken up. BTAC members were very interested in an ongoing relationship and discussed sea country mapping, which Woodside had responded to in writing earlier in 2023, Woodside agreed to re-send the relevant correspondence to the new CEO. BTAC noted they would invite Woodside to attend a meeting with BTAC early in 2024, a collaborative agreement will be settled and further ongoing consultation on all relevant EPs will continue in order of priority for BTAC and Woodside.

- **(4)** On 7 December 2023, Woodside emailed BTAC (via legal representative) (SI Report, reference 25.10). Woodside noted that the framework agreement had not been finalised to date but would include the following:
 - Agreement between parties to consult in a meaningful and genuine manner.
 - Procedure Woodside will follow when a submission requires consultation, which would include notification and an invitation to meet.
 - Initial and ongoing consultation about activities.
 - How Thalanyji provides feedback and how to represent that feedback in submissions.
 - Agreed schedule of rates.
 - How to manage the outputs of consultation.
 - Woodside requested to meet to progress discussions with BTAC.
- **(1, 2, 3)** On 7 December 2023, Woodside emailed BTAC forwarding correspondence received from and correspondence sent to the previous CEO dated 20 February 2023 and dated 17 March 2023, confirming support for recording Sea Country values and confirming anthropological support (SI Report, reference 25.11). Woodside confirmed support to pay reasonable costs for ethnographic/anthropological support for mapping and recording Sea Country values. Woodside requested to be contacted to enable progress on the above matters. BTAC's letter of 20 February 2023 in relation to other activities noted interests in archaeological sites on nearshore islands including the Montebello and Barrow Islands, they noted a cultural obligation to care for Sea Country and environmental values.
- **(2, 3)** On 7 December 2023, BTAC emailed Woodside accepting the offer to take up Sea Country mapping and research. BTAC requested a meeting in the week of 15 January 2024 to plan for upcoming activities (SI Report, reference 25.12).
- Between 8 December and 11 December 2023, Woodside and BTAC's legal representative exchanged emails about legal fees (SI Report, references 25.13 – 25.15).
- On 12 December 2023, BTAC emailed Woodside asking if 17 January 2024 was a suitable date to meet (SI Report, reference 25.16).
- On 12 December 2023, Woodside emailed BTAC (via legal representative) noting that BTAC had suggested a meeting during the week of 15 January 2024 to discuss Sea Country mapping. Woodside suggested that they would include time to progress the framework agreement and present on the status of current EPs (SI Report, reference 25.17).
- On 15 December 2023, BTAC emailed Woodside requesting a copy of the slide presentation from the meeting of 27 November 2023 (SI Report, reference 25.18).
- On 18 December 2023, Woodside emailed BTAC a copy of the slide presentation as requested from the meeting of 27 November 2023 (SI Report, reference 25.19).
- Between 19 December 2023 and 16 January 2024, Woodside and BTAC (and via legal representative) exchanged emails about administrative matters relating to meeting on 17 January 2024 including costs, agenda items and attendees (SI Report, references 25.20 – 25.25).
- On 17 January 2024, Woodside met with BTAC and discussed (among other things) (SI Report, reference 25.26):
 - **(1, 2)** Sea Country mapping, confirming:

- BTAC choose their own experts for ethnographic survey.
- BTAC retain intellectual property of material and may request information not be provided.
- Fieldwork required with a preferred commencement in April, with Woodside personnel in attendance as guided by BTAC.
- (5) BTAC prefer early notice on EPs, if possible. (5) Woodside acknowledged the request.
- (6) BTAC were keen on employment/training opportunities and opportunities for rangers.
- (7) BTAC to form a committee for consultation on EPs.
- (6) On 17 January 2024, Woodside emailed BTAC information about training pathways as discussed at the meeting with BTAC on 17 January 2024 (SI Report, reference 25.27).
- (2, 3) On 8 February 2024, Woodside emailed BTAC confirming support in articulating Sea Country values. (SI Report, reference 25.28).
- (2, 3) On 8 February 2024, BTAC emailed Woodside informing that a scope of work would be generated to inform identifying and articulating Sea Country values. Woodside replied acknowledging the email (SI Report, references 25.29 – 25.30).
- (4) On 28 February 2024, Woodside emailed BTAC a draft consultation agreement for BTAC's consideration which included the aims of consultation, proposed consultation agreement details and a consultation meeting framework (SI Report, reference 25.31). Woodside invited BTAC to propose a schedule of rates and other details relating to ongoing engagements.
- (4) (4) Between 28 February – 5 March 2024, Woodside and BTAC (via legal representative) exchanged emails to progress the draft consultation framework (SI Report, reference 25.32 – 25.34).
- (7) On 11 March 2024, BTAC (via legal representative) emailed Woodside to discuss Woodside meeting with two new BTAC committees to progress discussions relating to Woodside activities and EP consultation and engagement. BTAC requested available dates for Woodside representatives to attend committee meetings (SI Report, reference 25.35).
- (7) Between 25 March and 22 April 2024, Woodside and BTAC (via legal representative) exchanged emails about meeting the BTAC committees. A meeting date of 22 May 2024 was agreed to (SI Report, references 25.36 – 25.40).
- (2, 3) On 22 May 2024, Woodside met with BTAC about another EP. Among topics not related to this EP, (2, 3) Woodside reiterated its commitment to supporting BTAC articulate Sea Country Values (SI Report, reference 25.41).
- On 9 September 2024, Woodside invited BTAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 25 September 2024 (SI Report, reference 83.1).
- On 3 October 2024, Woodside invited BTAC to share stories and receive updates from Woodside at its Monthly Luncheon for Traditional Owners to be held in Roebourne on 23 October 2024 (SI Report, reference 83.3).
- On 10 October 2024, Woodside emailed BTAC regarding this EP, referring to correspondence sent to BTAC on 11 October 2023, 18 December 2023 and a meeting on 27 November 2023 in relation to consultation for this EP (SI Report, reference 25.42). Woodside stated:
 - Consultation for this EP opened on 11 October 2023 when Woodside provided BTAC consultation information, and closed on 11 November 2023 allowing Woodside to prepare the EP.

- The EP was publicly available on NOPSEMA’s website (and provided a link) and is being assessed by NOPSEMA.
- Woodside would shortly resubmit this EP for further assessment and it would be substantively the same as that published on the website and would include relevant feedback obtained during consultation.
- Any feedback claims or objections about the adverse impacts (if any) relating to the EP that BTAC would like Woodside to consider as part of this resubmission, to be provided to Woodside no later than 24 October 2024.
- Woodside attached a table outlining information BTAC had previously provided about its cultural values:
 - (1) (1) BTAC has a cultural obligation to care for the environmental values of Sea Country and its interests include archaeological sites identified on nearshore islands including the Montebello Islands, Barrow Island and the Mackerel Islands.
- Woodside requested BTAC provide any additional information about its cultural values by 24 October 2024. Woodside provided contact details for providing feedback.
- Woodside acknowledged discussions relating to framework agreements had been ongoing since May 2023 and were yet to be completed, and that consultation for this EP had occurred in parallel.
- Woodside had provided sufficient information, allowed a reasonable period of time for consultation and given a reasonable opportunity to provide details about the adverse impacts of the activity on BTAC’s functions, interests or activities, and looked forward to progressing discussions with BTAC on framework agreements separately.
- Feedback could continue to be provided during the life of the EP, including after consultation for the EP had closed, during assessment of the EP, and after the EP has been accepted by NOPSEMA, and that Woodside would continue to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP.
- Should a claim or objection be received following the acceptance of the EP, Woodside would apply its Management of Change and Review process.
- On 21 October 2024, Woodside emailed BTAC a reminder about this EP (SI Report, reference 25.43). The email included:
 - A reference to the consultation email update for this EP sent to BTAC on 10 October September 2024.
 - A reminder that consultation for the preparation of this EP resubmission closes on 24 October 2024.
 - A request for information on how BTAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
 - Woodside’s commitment to managing gender-restricted or other culturally sensitive information, and working with BTAC to understand how it would like information to be managed.
 - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
 - A request for BTAC to provide information about the proposed activity to other individuals, as required.
- On 18 November 2024, Woodside emailed BTAC following a meeting about a matter unrelated to EP consultation (SI Report, reference 25.44). Matters raised in the email that are relevant included:
 - (6) BTAC would send a ranger program proposal to Woodside for consideration.

- (2, 3) Woodside and BTAC would hold a workshop to finalise the Sea Country mapping scope.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) BTAC has a cultural obligation to care for the environmental values of Sea Country. BTAC's interests include archaeological sites identified on nearshore islands including the Montebello Islands, Barrow Island and the Mackerel Islands.	(1) Woodside assessment: Woodside assessed BTAC's cultural obligation to care for environmental values of Sea Country to represent potential cultural values. The nearshore islands identified by BTAC do not fall within the EMBA. Woodside response: Updated relevant sections in the EP to record interests and potential cultural values and assessed the potential impact on these and included controls. The islands will not be impacted by the activities set out in the EP and Sea Country mapping will therefore continue even though consultation for this EP is closed.	(1) Woodside has recorded BTAC's interests and potential cultural values in Section 4.9 and assessed potential impact on these, including controls, in Section 6.10.
(2) BTAC has not specifically developed values regarding Sea Country into a format that could be articulated for consultation. BTAC sought support from Woodside to enable BTAC to define and articulate its values on Sea Country in a manner that could be more clearly understood by the offshore sector, government, and the community.	(2) Woodside assessment: Completion of an ethnographic assessment is not required to undertake or complete consultation under regulation 25 of the Environment Regulations and/or for a comprehensive description of the environment. Opportunity to undertake this work continues under the proposed consultation framework (see (4) below) as part of ongoing engagement. Woodside has been able to develop a robust understanding of Thalanyji Sea Country cultural values and features in absence of this assessment. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP). Woodside response: Woodside agreed to support the articulation and recording of Sea Country values. This offer has been taken up and progress has commenced towards the desired outcome. The draft consultation	(2) Woodside has taken all reasonable steps to identify cultural features and heritage features of Thalanyji people within the EMBA. This is described in Section 4.9. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

	framework at (4) below includes support for recording and articulation of Sea Country values.	
(3) Requested Woodside supports BTAC in obtaining technical advice relating to the proposed activities which were sent to BTAC.	(3) Woodside assessment: In February 2024, BTAC engaged a consultant who is completing a scope of work to inform BTAC of costings for articulating Sea Country values. Woodside considers it beneficial for Thalanyji to have technical advice to ensure the delivery of an outcome that does justice to the work involved to record the Sea Country values. Woodside response: Woodside has offered reasonable financial support for technical advice and other support that has now been taken up by BTAC.	(3) No additional measures or controls are required.
(4) BTAC proposed a consultation framework as an appropriate mechanism to provide ongoing feedback to Woodside regarding its activities.	(4) Woodside assessment: Woodside is committed to ongoing consultation with acknowledges BTAC. proposal for a consultation framework. Woodside response: Separate from consultation under regulation 25 of the Environment Regulations, Woodside has drafted a consultation framework with BTAC and is awaiting final internal review. The agreement would be used to frame ongoing consultation. Sufficient information to allow informed assessment has already been provided by other means, including Consultation Information Sheets and a Summary Information Sheet developed by Indigenous staff members.	(4) Woodside is implementing a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i> , (Appendix G). This includes continued engagement regarding the consultation framework that Woodside seeks with BTAC. No additional measures or controls are required.
(5) BTAC requested early notification on EPs and are interested in forming a committee for ongoing consultation on EPs.	(5) Woodside assessment: Woodside supports ongoing consultation being conducted in the most appropriate way for BTAC. Woodside response: Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate,	(5) Woodside is implementing a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i> , (Appendix G). This includes continued engagement regarding the consultation framework that Woodside seeks with BTAC, a draft of which includes support for BTAC to define and articulate sea values, provision of ongoing feedback and cost

	Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	recovery. No additional measures or controls are required.
(6) BTAC expressed desire to be involved in local emergency response capability, potentially via an Indigenous Ranger Program. Interested in opportunities for employment/training.	(6) Woodside assessment: Woodside considers value in having rangers on the ground, trained up in the highly unlikely event of a spill. It would be beneficial to an immediate response in an emergency situation. Woodside response: Woodside has offered to support BTAC In January 2024 Woodside provided BTAC with information about a training/employment program.	(6) The Program for Ongoing Engagement with Traditional Custodians (Appendix G) includes commitments to social investment to support Indigenous Ranger programs, and support for Indigenous oil spill response capabilities. Based on engagement to date, no additional measures or controls are required.
(7) BTAC has formed two new committees including one responsible for EP consultation and engagement.	(7) Woodside assessment: In its initial email to BTAC about this EP, Woodside requested BTAC advise of its preferred method of consultation. Woodside response: Woodside met with BTAC on 22 May 2024 and will continue to follow BTAC's guidance about consultation requirements.	(7) No further action required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with BTAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: Woodside sought direction on BTAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation.		

- Provided Consultation Information Sheet and Summary Information Sheet developed by Indigenous staff to BTAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity in a digestible, plain English format.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.
- Asked for the consultation and information sheets to be distributed to members and individuals.
- Woodside has provided NOPSEMA's brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan".
- Advised that BTAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).
- Woodside provided further information to BTAC on 10 October 2024, which included:
 - The dates Woodside emailed BTAC about the proposed activity.
 - That the original consultation commenced on 23 October and closed on 20 November 2023.
 - A link to the publicly available EP on NOPSEMA's website.
 - Confirmation that Woodside will resubmit the EP for further assessment.
 - That feedback, claims or objections about the adverse impacts (if any) relating to the EP that BTAC would like Woodside to consider as part of the resubmission, should be provided to Woodside by 24 October 2024.
 - That discussions relating to framework agreements can occur in parallel to EP consultation.
 - That feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).
- Woodside commenced consultation with BTAC in October 2023, with a further consultation period in October 2024.
- Woodside has addressed and responded to BTAC over 27 months, demonstrating a "reasonable" period of consultation.

Woodside asked BTAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on BTAC's functions, interests or activities.

Yinggarda Aboriginal Corporation (YAC)

YAC is established under the *Native Title Act 1993* (Cth) by the Yinggarda people to represent the Yinggarda people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 5 July 2023, Woodside met YAC and gave a presentation about several EPs. Matters relevant to this EP included:
 - (1) YAC stated that plants, animals and the environment are inexorably linked to its culture and asked whether Woodside had undertaken environmental studies, whether these studies were ongoing and what environmental monitoring occurred after EPs were approved.
 - (1) Woodside responded that it had undertaken numerous environmental studies that form part of EPs and had an ongoing commitment to environmental studies and research. Woodside also explained that environmental monitoring was an ongoing activity and was committed to ongoing consultation with YAC and would take feedback if any new information in relation to risks came to light.
 - (2) YAC expressed concern about potential impacts to patterns of whales and potential collisions.
 - (2) Woodside responded by explaining controls that would be put in place to minimise impacts and risks to whales.
- On 19 July 2023, Woodside emailed YAC NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*.
- On 26 July 2023, Woodside emailed YAC Woodside's planned *Program of Ongoing Engagement with Traditional Custodians*.
- (3) On 4 August 2023, YAC's legal representative emailed Woodside a request for a consultation agreement.
- (3) On 14 September 2023, Woodside emailed YAC's legal representative draft consultation framework principles.

Please see *Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report)* for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 11 October 2023, Woodside emailed YAC advising of the proposed activity (Record of Consultation, reference 1.66) and provided a simplified Consultation Summary Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that YAC and its members may have within the EMBA, information on how YAC would like to engage, and requested that YAC provide information to other individuals as required. Woodside requested information be provided by 11 November 2023 and offered further information, support, and any assistance required by YAC to participate in consultation.

- **(3)** Between 13 October and 18 November 2023, Woodside exchanged emails with YAC (via legal representative) about the contents of the draft consultation framework/agreement (SI Report, references 26.1 – 26.4)
- On 28 December 2023, Woodside emailed YAC (via legal representative) to follow-up on the initial email sent on 11 October 2023 (SI Report, reference 26.5) Woodside:
 - Invited YAC to provide any information about any functions, interests or activities which may be affected by the activities to be carried out under this EP.
 - Asked YAC to notify Woodside of any other individuals and or organisations Woodside should consult with.
 - Sought feedback by the end of January as the EP would be submitted in February.
 - Offered to respond to questions or provide further information if needed.
- On 12 February 2024, Woodside emailed YAC via its legal representative (SI Report, reference 26.6). Woodside notified YAC that the consultation period would close on 23 February 2024 and Woodside would take an ongoing consultation approach after this date.

Ongoing engagement:

- **(3)** On 8 March 2024, Woodside emailed YAC (via legal representative) a draft consultation agreement for YAC's consideration, including the aims of consultation, proposed consultation agreement details and a consultation meeting framework (SI Report, reference 26.7).
- Between 12 March and 10 May 2024, Woodside and YAC (via legal representative) exchanged emails relating to YAC's consultation costs and the possibility of meeting the YAC Board (SI Report, references 26.8 – 26.12).
- Between 15 and 16 July 2024, Woodside and YAC and GAC exchanged emails and phone calls to arrange a meeting on 18 July 2024 (SI Report, references 26.13 – 26.15).
- On 18 July 2024, Woodside met with the YAC Board (SI Report, reference 26.16). Matters discussed relevant to this EP included:
 - **(4)** Support for education and training including ranger programs.
 - **(3)** Possibility of setting up workshops to discuss the formalisation of an agreement between Woodside and YAC.
- On 26 July 2024, Woodside emailed YAC (via legal representative) a letter (SI Report, reference 26.17). Matters relevant to this EP included:
 - **(4)** Woodside would keep YAC informed about Woodside's consideration of ranger initiatives.
 - **(3)** Woodside looked forward to receiving YAC's feedback on the consultation framework and to hearing when YAC would like to meet again.
 - Woodside was committed to continuing consultation with Traditional Custodians beyond the submission of EPs and this would not be YAC's only opportunity to engage with Woodside.
 - Woodside invited YAC to share information with other organisations and individuals.
- On 10 October 2024, Woodside emailed YAC's legal representative regarding this EP, referring to correspondence sent to YAC on 11 October 2023, 28 December 2023 and 12 February 2024 (SI Report, reference 26.18) The email stated:
 - Consultation for this EP opened on 11 October 2023 when Woodside provided YAC consultation information.
 - The EP was now publicly available on NOPSEMA's website (and provided a link) and is being assessed by NOPSEMA.

- Woodside would shortly resubmit this EP for further assessment and that the EP will be substantively the same as that published on the website and will include relevant feedback obtained during consultation.
- Any feedback, claims or objections about the adverse impacts (if any) relating to the EP that YAC would like Woodside to consider as part of this resubmission, to be provided to Woodside no later than 24 October 2024.
- Woodside attached a table displaying cultural values previously provided by YAC. These were:
 - (1) YAC had noted that marine plants and animals including whales, turtles and the environment generally were inexorably linked to its culture.
 - (1) Woodside would record YAC's cultural and environmental values in the proposed EP.
- Feedback could be provided by email, phone, directly to the engagement team, or directly to NOPSEMA and providing a range of contact details.
- Woodside acknowledged consultation for this EP had occurred in parallel with discussions about a consultation framework/agreement.
- Woodside had provided sufficient information, allowed a reasonable period of time for consultation and given a reasonable opportunity to provide details about the adverse impacts of the activity on YAC's functions, interests or activities, and looked forward to progressing discussions with YAC on framework agreements separately.
- Feedback could continue to be provided during the life of the EP, including after consultation for the EP had closed, during assessment of the EP, and after the EP has been accepted by NOPSEMA, and that Woodside would continue to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP.
- Should a claim or objection be received following the acceptance of the EP, that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside would apply its Management of Change and Review process as appropriate.
- On 21 October 2024, Woodside emailed YAC a reminder about this EP (SI Report, reference 26.19). The email included:
 - A reference to the consultation email update for this EP sent to YAC on 10 October September 2024.
 - A reminder that consultation for the preparation of this EP resubmission closes on 24 October 2024.
 - A request for information on how YAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
 - Woodside's commitment to managing gender-restricted or other culturally sensitive information, and working with YAC to understand how it would like information to be managed.
 - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
 - A request for YAC to provide information about the proposed activity to other individuals, as required.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) YAC stated that plants, animals and the environment are inexorably linked to its culture and asked whether	(1) Woodside assessment: Woodside acknowledges YAC's feedback that plants, animals and the	(1)

Woodside had undertaken environmental studies, whether these studies were ongoing and what environmental monitoring occurred after EPs were approved.	environment are inexorably linked to its culture. Woodside has undertaken numerous environmental studies, has an ongoing commitment to research and conducts environmental monitoring after EPs are accepted. Woodside response: Woodside has advised YAC that it has undertaken numerous environmental studies, has an ongoing commitment to research and conducts environmental monitoring after EPs are accepted. Woodside has also advised YAC that it continues to take feedback for the life on an EP and will inform YAC of any new information in relation to risks.	Woodside has updated Section 4.9.4 to record YAC's interests and potential cultural values. Potential impact on these, including controls are detailed in Section 4.9.4. Woodside's commitment to ongoing engagement with YAC including informing YAC if new information becomes available about potential risks is detailed in Section 5.7. Woodside's environmental controls are described in Section 6.
(2) YAC expressed concern about potential impacts to patterns of whales and potential collisions.	(2) Woodside assessment: Woodside has noted YAC's interest in whales and has controls in place to minimise impacts and risks to whales. Woodside response: Woodside has advised YAC that controls are put in place to minimise impacts and risks to whales.	(2) Woodside has updated Section 4.9.4 to record YAC's interests and potential cultural values. Information about whales and migration patterns is recorded in Sections 4.6. Potential impact on these, including controls are detailed in Section 6.
(3) YAC requested a consultation agreement with Woodside	(3) Woodside assessment: An agreement with YAC aligns with Woodside's <i>Program of Ongoing Engagement with Traditional Custodians</i> and will frame ongoing consultation processes. Woodside response: Woodside provided a draft consultation agreement to YAC in March 2024. Discussions about this agreement are ongoing. YAC's request for a consultation agreement is not a pre-requisite for consultation under regulation 25 of the Environment Regulations. Sufficient information to allow informed assessment has already been provided by other means, including summary sheets developed by Indigenous staff. Woodside has also provided a reasonable period and opportunity for consultation. On 10 October 2024 Woodside reiterated to YAC that consultation for this EP had occurred in parallel with discussions about the consultation agreement.	(3) Not required.

(4) YAC enquired about support for education and training including ranger programs.	(4) Woodside assessment: Woodside considers value in having rangers on the ground trained up in the highly unlikely event of an oil spill. It would be beneficial to an immediate response in an emergency situation. Woodside response: Woodside looks forward to hearing about YAC's plans for a ranger program and will keep YAC informed about Woodside's consideration of ranger initiatives.	(4) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with YAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: • Woodside sought direction on YAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. • Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to YAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. • Confirmed the purpose of consultation and set out in detail what is being sought through consultation. • Articulated planned and unplanned environmental risks and impacts, with proposed controls. • Asked for the consultation and information sheets to be distributed to members and individuals as required. • Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan."		

- Advised that YAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).
- Woodside provided further information to YAC on 10 October 2024, which included:
 - The dates Woodside emailed YAC about the proposed activity.
 - That the original consultation commenced on 23 October and closed on 20 November 2023.
 - A link to the publicly available EP on NOPSEMA's website.
 - Confirmation that Woodside will resubmit the EP for further assessment.
 - That feedback, claims or objections about the adverse impacts (if any) relating to the EP that YAC would like Woodside to consider as part of the resubmission, should be provided to Woodside by 24 October 2024.
 - That discussions relating to framework agreements can occur in parallel to EP consultation.
 - That feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with YAC in October 2023, with a further consultation period in October 2024.
- Woodside has addressed and responded to YAC over 27 months, demonstrating a "reasonable" period of consultation.

Woodside asked YAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on YAC functions, interests or activities.

Kariyarra Aboriginal Corporation (KAC)

Kariyarra is established under the *Native Title Act 1993* (Cth) by Kariyarra people to represent the Kariyarra people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 264 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Historical engagement:

- On 18 July 2023, Woodside emailed KAC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that KAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.
- On 26 July 2023, Woodside emailed KAC Woodside's planned *Program of Ongoing Engagement with Traditional Custodians*.
- On 22 September 2023, KAC (via legal representative) emailed Woodside a letter with matters relevant to this EP include:
 - (1) An agreement which provides the most effective tool for the effective and ongoing consultation by Woodside with KAC.
 - An agreed budget to fund (among other things) preparation of Agreement, meetings, and specialist advice.
 - (2) Noting that KAC asserted sea rights in their native title claim. (Note: Native title was found by the Federal Court not to exist in the sea in the Kariyarra determination).
 - Contact protocols going forward.
- On 28 September 2023, KAC's legal representative emailed Woodside . The email attached a letter dated 22 September, referring to another activity more broadly setting out:
 - Proposed negotiations for a consultation protocol and co-management agreement.
 - (2) Referring to values and interests in Sea Country.
 - (2) Traditional fishing and gathering rights in the ocean.
 - (2) Presence of mythic snakes.

Please see Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report) for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 18 October 2023, Woodside emailed KAC advising of the proposed activity (Record of Consultation, reference 1.67) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that KAC and its members may have within the EMBA, information on how KAC would like to engage, and requested that KAC provide information to other individuals as required.
- Between 20 – 26 October 2023, several emails (some via KAC's legal representative) were exchanged in relation to consultation costs and Woodside reiterated the need for a reasonable quote (SI Report, reference 27.1 – 27.7).
- On 14 November 2023, KAC (via legal representative) emailed Woodside in relation to costs of consultation meetings noting that they had taken their concerns to the Environment Defenders Office (EDO) (SI Report, reference 27.8).
- (1, 2) On 22 November, Woodside emailed KAC (via legal representative) reiterating a preparedness to fund consultation for consultation meetings and noting that Woodside were looking at implementing further environmental controls in relation to operations to reduce or remove any potential impact to Kariyarra Sea Country. Woodside said they wished to progress the framework agreement and suggested a full day meeting with KAC. The agreement could set out a protocol for ongoing

consultation on EPs where consultation for purposes of developing an EP is closed, and for consultation on development of EPs for new activities (SI Report, reference 27.9).

- **(1)** Between 23 – 29 November 2023, KAC (via legal representative) emailed Woodside (SI Report, reference 27.10 – 27.13):
 - Agreeing to Woodside’s proposal in the email of 22 November 2023.
 - Requesting a draft protocol and suggesting dates for a meeting between KAC and Woodside.
 - Seeking costs already incurred by KAC’s legal representative to KAC.
 - Confirming a meeting of 5 December 2023 in Karratha with KAC, including meeting agenda and location details, and quotes for meeting costs and reviewing the draft consultation protocol.
 - Requesting a copy of the draft consultation protocol.
- **(1)** On 29 November 2023, Woodside emailed KAC (via legal representative) attaching Woodside’s Program of Ongoing Consultation, a revised Agenda and suggesting the protocol between KAC and Woodside would set out (SI Report, reference 27.14):
 - How Woodside and KAC would consult, the basic procedure for initial and ongoing consultation in relation to activities.
 - An agreement as to how Woodside would provide information to KAC.
 - How KAC would provide feedback and how Woodside represents that into submissions.
 - An agreed to schedule of rates.
 - How the outputs of the consultations are managed.
- On 29 November 2023, KAC (via legal representative) emailed Woodside with an amended proposed Agenda for the upcoming meeting (SI Report, reference 27.15).
- On 5 December 2023, Woodside and KAC met in Port Hedland (SI Report, reference 27.16). At the meeting Woodside:
 - **(1)** Presented on an Engagement Protocol.
 - Presented the regulatory context.
 - Discussed why Woodside were talking to KAC.
 - Displayed the EMBA and how it was developed.
 - Showed projects open for ongoing consultation.
 - Spoke to what Woodside were seeking to understand from KAC:
 - **(2)** How could these activities impact your cultural values, interests, and activities - does protecting the environment do enough to protect your cultural values?
 - What are your concerns about the proposed activities and what do you think we should do about them?
 - Is there anything you would like included in the EPs before submission?

- Is there anyone else Woodside should consult with about the activities?
- (3) KAC asked how Woodside maintain the validity of controls over periods of times, sighting turtles as an example in terms of whether current controls would be sufficient into the future.
 - (3) Woodside noted that there is ongoing monitoring and Woodside would apply its Management of Change and Revision process to address controls.
 - Noted the EPs subject of ongoing consultation, including this EP.
 - Spoke to planned and unplanned risks.
- (2) KAC gave a presentation to Woodside on their Sea Country rights and duties. This included:
 - Accessing Sea Country for fishing, trapping, crabbing catching turtle, hunting dugong, using stingray barbs for spears and collecting shellfish.
 - Visiting offshore islands at low tide.
 - Passing on traditional knowledge to children.
 - Secret habitat totems.
 - Having duties to look after and protect all of KAC's Sea Country.
- KAC outlined their consultation requirements to Woodside including:
 - (2) To co-designed and co-manage an approach to protecting Sea Country.
 - (1) To establish a consultation agreement with Woodside and have ongoing input into EPs.
 - (4) To fund sea rangers.
 - To ensure a positive and collaborative relationship.
- (1) On 13 December 2023, KAC (via legal representative) emailed Woodside with outcomes of the 5 December meeting, confirming availability for a workshop in March 2024 and that KAC and Woodside aim to reach agreement on an engagement protocol by mid-2024 (SI Report, reference 27.17).
- (1) On 20 December 2023, Woodside emailed KAC (via legal representative) confirming the process for ongoing consultation, noting information to be included in this EP provided by KAC and noting that Woodside looks forward to reaching agreement with KAC on consultation process (SI Report, reference 27.18).
- (2) On 20 December 2023, KAC (via legal representative) emailed Woodside noting further information regarding Sea Country features and values KAC wish noted within EPs (SI Report, reference 27.19).
- (1) (1) Between 20 December 2023 – 4 April 2024, KAC (via legal representative) and Woodside exchanged emails (SI Report, reference 27.20 – 27.29), that communicated the following:
 - KAC acknowledging that it looked forward to progressing an agreement in 2024 between itself and Woodside.
 - KAC expressing interest in signing a consultation agreement with Woodside and informed Woodside that the letter has been approved for signing by the Corporation Chair and waits for Woodside's response.
 - KAC expressing interest in signing a consultation agreement with Woodside .

- (1) Woodside thanking KAC for its emails and attaching a draft consultation agreement letter outlining the objectives, terms and conditions, and proposed consultation schedule with KAC .
- KAC requesting a Word version of the letter sent on 21 February 2024 and Woodside subsequently emailing the requested version of the letter to KAC.
- (1) KAC sending to Woodside an edited draft agreement for consideration and Woodside confirming receipt of draft agreement.
- (1) Woodside returning the draft agreement with edits, comments for requests for further information.
- (1) KAC raising concerns regarding Woodside's edits and seeking further instruction from KAC. No further response from Kariyarra regarding this matter.

Ongoing engagement:

- Between 26 June 2024 – 28 August 2024, Woodside and KAC exchanged emails (SI Report, reference 27.30 – 27.34) which included the following:
 - Woodside requested if there were further instructions from KAC on the draft agreement and proposed amendments.
 - (1) KAC's legal representative advised that the consultation agreement and recent Woodside EPs would be addressed by KAC's in-house counsel. The in-house counsel would revert to Woodside about the proposed agreement and EP consultation.
 - Woodside requested contact details for KAC's in-house counsel.
 - KAC's in-house counsel KAC confirmed it was no longer represented by its former legal representative. The in-house counsel enquired about Woodside's availability for a phone call or online meeting to discuss and plan next steps.
 - Woodside offered to speak on the phone or meet in person.
- On 29 August 2024, Woodside spoke to KAC on the phone (SI Report, reference 27.35). During the conversation:
 - Woodside confirmed its commitment to building meaningful relationships with First Nations groups.
 - KAC confirmed it had recruited a new CEO.
 - (1) KAC expressed interest in negotiating a consultation agreement.
 - (1) Woodside advised that negotiation of the consultation agreement work would run in parallel with EP consultation.
 - Woodside confirmed availability to consult and willingness to travel for meetings.
 - (1) KAC confirmed it wanted to “start fresh” and requested a copy of the draft agreement.
 - KAC requested an online meeting on 3 September 2024.
 - Woodside offered to provide a copy of its presentation ahead of time to allow KAC to review and distribute it to its Board prior to the meeting.
 - KAC requested information about Woodside assets and Woodside advised it has no assets within the determination.
 - Woodside explained how EMBA's are used as part of the methodology to ascertain and contact relevant people.
- On 3 September 2024, Woodside emailed its presentation to KAC for a meeting that day (SI Report, reference 27.36). Matters relevant to this EP that were discussed included:
 - Woodside's commitment to working with First Nations communities.

- How Woodside consults with First Nations communities, including ongoing consultation on EPs.
- On 3 September 2024, Woodside and KAC met virtually (SI Report, reference 27.37). Matters discussed included the following:
 - KAC wanted to build a valuable relationship with Woodside.
 - KAC advised it had undergone a recent internal restructure resulting in a new CEO, General Counsel and Native Title Representative.
- (1) On 3 September 2024, Woodside provided KAC with a copy of the draft consultation agreement originally provided in February 2024. KAC acknowledged receipt of the email. (SI Report, references 27.38 – 27.39).
- On 4 September 2024, Woodside travelled from Karratha to South Hedland to meet KAC in-person (SI Report, reference 27.40). Matters discussed:
 - (1) KAC expressed a desire to finalise the consultation agreement.
 - (1) Woodside confirmed that consultation agreement negotiations run in parallel to EP consultations and it was important KAC provide feedback before the closure of consultation for each EP.
 - Woodside confirmed feedback deadlines are in consultation emails.
 - Woodside also confirmed that feedback is open for the life of an EP.
 - (4) KAC advised it would like to discuss opportunities with Woodside to support its ranger program. (4) Woodside replied that it was looking into a ranger assistance program.
- On 9 September 2024, Woodside invited KAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 25 September 2024 (SI Report, reference 83.1).
- On 3 October 2024, Woodside invited KAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 23 October 2024 (SI Report, reference 83.3).
- On 1 April 2025, Woodside telephoned KAC (SI Report, reference 27.41). During the discussion both parties tentatively agreed to meet on 30 April 2025 to discuss two EPs unrelated to this activity. Woodside acknowledged the importance of maintaining ongoing relationships with relevant PBCs to ensure Woodside remains aware of the cultural interests and values to each group.
- On 30 April 2025, Woodside met KAC in Port Hedland about unrelated EPs (SI Report, reference 27.42). Matters discussed relating to this EP include:
 - Woodside explained EPs, consultation processes and EMBA's.
 - Woodside presented cultural values that KAC had previously provided.
 - (5) KAC sought clarity of impacts to the health of food sources and other marine life including whether there were any diseases that could threaten sea life as a result of an adverse event. (5) Woodside answered questions about these issues during the meeting and offered to provide information in a written response.
 - (6) KAC queried the role of Traditional Owners in the event of a spill. (6) Woodside provided an overview on its emergency response process and how it was working with the Government to implement additional training opportunities for ranger groups.
 - (7) KAC queried which shipping channels are used as they wanted to understand the risks associated with ships travelling closely to their determination. (7) Woodside took the question on notice.

- (8) KAC expressed a desire to enter into a consultation agreement. (8) Woodside accepted this as an ongoing action noting that these discussions would not delay EP submission deadlines.
- (9) Islands off the coast of Port Hedland are extremely important to KAC (Little Turtle, North Turtle and Bedout). (9) Woodside noted this feedback.
- (10) KAC raised concerns about historic unplanned incidents (not involving Woodside) and asked for details about improvements to processes. (10) Woodside explained that since these historic incidents, governments have set up regulatory bodies including NOPSEMA to regulate industry.
- On 5 May 2025, Woodside emailed KAC to confirm matters discussed during the 30 April 2025 meeting (SI Report, reference 27.43) this included:
 - (8) KAC's desire to enter into a consultation agreement. (8) Woodside notes this as an ongoing action noting that these discussions occur in parallel to EP consultation.
 - (5) KAC sought clarity of impacts to the health of food sources and other marine life that could threaten sea life.
 - (7) KAC queried which shipping channels are used as it wanted to understand the risks associated with ships travelling closely to its determination.
 - (6) KAC queried contact points in the event of a spill.
 - (10) KAC raised concerns about historic unplanned incidents (not involving Woodside) and asked for details about improvements to processes.
- Between 20 and 27 May 2025, Woodside and KAC exchanged emails and met online to follow-up on matters raised during the 30 April 2025 meeting (SI Report, references 27.44 – 27.47).
- On 28 May 2025, Woodside and KAC spoke on the phone (SI Report, reference 27.48) where the following items relevant to this EP were discussed:
 - (8) KAC's desire to enter into a consultation agreement and requested Woodside resend the most recent consultation agreement draft for KAC to consider and respond. (8) Woodside notes this as an ongoing action noting that these discussions occur in parallel to EP consultation.
 - Woodside offered to host a consultation 'learning' workshop to help build an understanding of the EP consultation process.
 - Woodside committed to provide a formal response to KAC.
- On 3 June 2025, Woodside emailed KAC responses to questions raised during their meeting on 30 April 2025 (SI Report, reference 27.49). Responses included:
 - (8) Woodside noted that it had provided KAC with a draft consultation agreement in February 2024 and that discussions about this agreement had occurred in parallel to consultation for unrelated EPs to this activity.
 - (5) Woodside acknowledged KAC's connection to Sea Country and provided details about risks and mitigation measures that related to the ecological integrity of marine fauna.
 - (6) Woodside provided information about contact procedures in the highly unlikely event of a spill.
 - (7) Woodside provided information about shipping channels, and that ships were sometimes required to travel from Dampier.
 - (9) Woodside acknowledged that islands off Port Hedland are culturally important to KAC - Little Turtle, North Turtle and Bedout. This information would be recorded in EPs.
 - (10) Woodside provided information about two historic incidents not related to Woodside that had been raised by KAC in the 30 April 2025 meeting. Woodside explained the role of NOPSEMA and that it took a robust and systematic approach to the environmental management of petroleum activities.

- On 21 August 2025, Woodside met with KAC in Port Hedland to consult on EPs not related to this activity (SI Report, reference 27.50). During the meeting:
 - (11) KAC queried where Woodside had collated its list of KAC's cultural values. (11) Woodside stated it had sourced KAC's cultural values via consultation and feedback from KAC when consulting on other EPs and desktop research using publicly available literature.
 - (12) KAC provided additional information on marine species identified as cultural values which include: shellfish, cockles, oysters, clam shells, con shells, mullets and sea cow (dugong), as well as the importance of (13) river systems as food chains (12, 13) Woodside acknowledged this new information and would update its records and current and future EPs accordingly.
 - (14) KAC asked if Woodside considered historical mapping of cultural values and prehistoric coastlines when understanding the closeness of the activity to KAC's Native Title determination. (14) Woodside stated that underwater archaeologists are often engaged to assess underwater marine life when undertaking its activities.
- (11, 12, 13) On 17 September 2025, Woodside emailed KAC updated information about its record of Cultural Values and responses to questions taken on notice during their 21 August 2025 meeting (SI Report B, reference 27.15) This included an answer to a query about consideration of cyclone events in spill modelling. Woodside provided information about how modelling captures large-scale ocean changes caused by cyclones.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) KAC have noted that they want to engage on matters with Woodside and would like to develop an Engagement Protocol for (among other things) ongoing input into EP's and a collaborative relationship with Woodside.	(1) Woodside assessment: An agreement with KAC aligns with Woodside's <i>Program of Ongoing Engagement with Traditional Custodians</i> and will frame ongoing consultation processes. Woodside response: Woodside will finalise the draft agreement with KAC which was sent to KAC in February 2024. It will be used to frame ongoing consultation during the life of the EP. Woodside and KAC have agreed to hold a workshop in early 2024 to progress towards finalising the agreement between KAC and Woodside.	(1) Woodside's program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on EPs is currently being implemented. The draft agreement with KAC (among other things) will set out the process for ongoing engagement. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i>, (Appendix G). Woodside will continue to consult following acceptance of the EP, as set out in Section 7.15 of the EP.
(2) KAC has informed Woodside about its Sea Country rights including during a face-to-face meeting on 5 December 2023, it mentioned: Fishing, trapping, crabbing catching turtle, hunting dugong, and using stingray barbs for spears and collecting shellfish.	(2) Woodside assessment: Woodside accepts that KAC may have Sea Country values within the EMBA for the EP. Woodside response: Woodside has noted the KAC's values and interests in Sea Country in Section 4.9.	(2) Woodside recognises KAC's connection to Sea Country (Section 4.9). Potential impacts on Cultural Features and Heritage Values are assessed in Section 6.10 of the EP.

• Visiting offshore islands at low tide. • Secret habitat tokens. • Having a duty to look after and protect Sea Country.		
(3) KAC queried how the validity of current controls are maintained and appropriate into the future.	(3) Woodside assessment: Management of changes are in accordance with regulations 38 and 39 of the Environment Regulations. Appropriate controls and currency of those controls remain valid through applying new advice from external stakeholders and understanding changes in the environment. Woodside response: Woodside applies its Management of Change and Revision process to address controls.	(3) Management of Change and Revision process (refer to Section 7.6.1 of the EP). No additional measures or controls are required.
(4) KAC would like to discuss opportunities for Woodside to support its ranger program	(4) Woodside assessment: Woodside acknowledges the value in having trained rangers available in the highly unlikely event of an oil spill and agrees it would be beneficial to an immediate response in an emergency situation. Woodside response: Woodside is reviewing a ranger assistance program and will provide details to KAC once this has matured, and notes a ranger program is not relevant to the activity under this EP.	(4) The Program for Ongoing Engagement with Traditional Custodians (Appendix G) includes commitments to social investment to support Indigenous Ranger programs, and support for Indigenous oil spill response capabilities.
(5) KAC sought clarity of impacts to the health of food sources and other marine life including whether there were any diseases that could threaten sea life as a result of an adverse event.	(5) Woodside assessment: Woodside acknowledges KAC's connection to Sea Country. Woodside has identified potential impacts and risks to the ecological integrity of marine fauna and put in place mitigation measures. Woodside response: Woodside has provided a written response to KAC explaining risks to marine life relating to another EP. Woodside has categorised these risks as highly unlikely events. Woodside has explained that clean up and remediation response activities would commence from the outset of an	(5) KAC's connection to Sea Country is identified in Section 4.9 of the EP. Risks and mitigation measures relating to marine life are details in Section 6. Measures relating to oil spills are covered in Appendix H – Oil Spill Preparedness and Response and Appendix I – Oil Pollution First Strike Plan.

	incident in line with Woodside's Oil Pollution First Strike Plan.	
(6) KAC queried the role of Traditional Owners in the event of a spill.	(6) Woodside assessment: In the highly unlikely event of a spill, Woodside would enact its Oil Pollution First Strike Plan, which includes contacting the regulator, NOPSEMA and any relevant cultural authorities that may be affected. Woodside response: Woodside provided KAC with details of its Oil Pollution First Strike Plan and contact procedures.	(6) Measures relating to oil spills are covered in Appendix H – Oil Spill Preparedness and Response and Appendix I – Oil Pollution First Strike Plan.
(7) KAC queried which shipping channels are used as they wanted to understand the risks associated with ships travelling closely to their determination.	(7) Woodside assessment: Ships are sometimes required to travel from the mainland (Dampier) to operational areas. Woodside response: Woodside informed KAC about the distance from KAC's Native Title claim determination to the operational area of another activity (for which this feedback was initially raised). Woodside also provided KAC with details about regulations governing vessel transport. Woodside has also provided details about its First Strike Plan.	(7) Measures relating exclusion zones and vessels are in Section 3.3 and 3.17 of the EP. Measures relating to oil spills are covered in Appendix H – Oil Spill Preparedness and Response and Appendix I – Oil Pollution First Strike Plan.
(8) KAC expressed a desire to enter into a consultation agreement.	(8) Woodside assessment: Woodside provided KAC with a draft consultation agreement in February 2024. Woodside response: Woodside notes that while discussions about this agreement are ongoing, a consultation agreement is not a prerequisite for consultation, and consultation for EPs have occurred in parallel.	(8) No action required.
(9) Islands off the coast of Port Hedland are extremely important to KAC (Little Turtle, North Turtle and Bedout).	(9) Woodside assessment: Woodside acknowledges that islands off Port Hedland have cultural value to KAC.	(9) This information has been captured in Section 4.9 of the EP.

	Woodside response: Woodside has updated its records to reflect this and will include this information in Section 4.9.	
(10) KAC raised concerns about historic unplanned incidents (not involving Woodside) and asked for details about improvements to processes.	(10) Woodside assessment: Woodside takes a robust and systematic approach to environmental management of petroleum activities. Woodside response: Woodside explained that since these historic incidents, governments have set up regulatory bodies including NOPSEMA to oversee industry. In the unlikely event of a spill, Woodside would enact its First Strike Plan which would include contacting NOPSEMA and any affected cultural authorities. Woodside has oil pollution emergency plans and implements training and capability building programs in the regions where it operates.	(10) Measures relating to oil spills are covered in Appendix H – Oil Spill Preparedness and Response and Appendix I – Oil Pollution First Strike Plan.
(11) KAC queried where Woodside had collated its list of KAC's cultural values.	(11) Woodside assessment: At the start of consultation for EPs, Woodside provides KAC with information on the Cultural Values it had collated for the group through consultation and publicly available literature. Woodside response: Woodside explained to KAC that it had sourced KAC's cultural values via consultation and feedback from KAC when consulting on other EPs and desktop research.	(11) No further action required.
(12) Cultural Value previously provided to Woodside: Marine Animals - Management of sea turtle nesting. - Impacts to whale migration (whales are connected to Songlines). Additional species identified during consultation for unrelated EPS include: - Shellfish	(12) Woodside assessment: This value has been identified through Woodside's data collection processes (consultation) and at a meeting with KAC on 21 August 2022. Woodside response: During consultation for an unrelated EP, KAC identified additional species. Woodside has updated its records and the EP to reflect this feedback.	(12) Woodside has updated Section 4.9 to record these interests and cultural values. Whale migration and turtle nesting has been included in Section 4.9 of the EP. Controls have been adopted where appropriate in Sections 6 of the EP.

• Cockles • Oysters • Clam shells, • Con shells • Mulletts • Sea cow (dugong),		
(13) River systems are important to the food chain.	(13) Feedback assessment: While river systems are not relevant for this EP, Woodside assesses environmental impacts of its EPs and puts in place appropriate mitigation measures. Feedback response: Woodside has informed KAC that it will update its records and current and future EPs accordingly.	(13) River systems are not relevant for this EP. Cultural values relating to river systems are in 4.9.
(14) KAC asked if Woodside considered historical mapping of cultural values and prehistoric coastlines when understanding the closeness of the activity to KAC's Native Title determination.	(14) Feedback assessment: Woodside engages a consultant to undertake underwater cultural heritage assessment when developing EPs with seabed contact activities. Feedback response: Woodside informed KAC that a maritime archaeologist is engaged to assess the potential for underwater cultural heritage when undertaking its activities.	(14) No further action required.
Woodside has addressed objections and claims as noted above.	Woodside has assessed the merits of any objection or claim (if any) about the adverse impact of the activity to which the EP relates as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls required.
Outcomes of consultation		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with KAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on KAC preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation.
- Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to KAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan.
- Advised that KAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with KAC in October 2023.
- Woodside has addressed and responded to KAC over 27 months, demonstrating a "reasonable period" of consultation.

Woodside asked KAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP). Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on KAC functions, interests or activities.

Wirrawandi Aboriginal Corporation (WAC)

WAC is established under the *Native Title Act 1993* (Cth) by the Mardudhunera and Yaburara people to represent the Mardudhunera and Yaburara people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 18 July 2023, Woodside emailed WAC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information.
- On 26 July 2023, Woodside emailed WAC Woodside's planned Program of Ongoing Engagement with Traditional Custodians.

Please see Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report) for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 3 October 2023, Woodside emailed WAC advising of the proposed activity (Record of Consultation, reference 1.68) and provided a simplified Consultation Summary Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that WAC and its members may have within the EMBA, information on how WAC would like to engage, and requested that WAC provide information to other individuals as required. Woodside requested information be provided by 2 November 2023 and offered further information, support, and any assistance required by WAC to participate in consultation.
- On 3 October 2023, Woodside and WAC exchanged email correspondence on the logistics of booking a meeting to discuss the environment plan. Woodside offered to meet at a location suitable to WAC (SI Report, references 28.1 – 28.4).
- On 20 October 2023, WAC and Woodside met (SI Report, reference 28.5) and discussed:
 - Current EPs and how parties intended to support each other through the process.
 - Woodside's intention to ensure that WAC was adequately consulted on all relevant EPs.
 - WAC's current corporate restructure and the impact of this to engage in consultation.
 - (1)** WAC's interest in discussing a consultation framework/process once the new CEO was settled in.
- On 24 October 2023, Woodside sent a follow-up email enquiring if WAC had any questions relating to this EP and offering to schedule a consultation session with the members and/or Board of WAC (SI Report, reference 28.6).
- On 3 November 2023, Woodside emailed WAC following up regarding feedback on this activity and again attaching the Summary Information Sheet (Record of Consultation, reference 1.68). Woodside advised WAC it could take some additional time to consider the consultation. Woodside asked WAC to advise if it would like to set up a consultation meeting (SI Report, reference 28.7).

Ongoing engagement:

- On 19 December 2023, Woodside emailed WAC wishing a happy festive season, thanking WAC for its contributions throughout the year and offering availability for consultation sessions (SI Report, reference 28.8).
- On 19 December 2023, WAC emailed Woodside noting its thanks for Woodside support (SI Report, reference 28.9).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- (1) On 6 March 2024, Woodside emailed WAC a draft consultation framework for consideration relating to EPs and Woodside's ongoing activities, including the aims of consultation, proposed consultation agreement details and a consultation meeting framework. Woodside invites WAC to propose a schedule of rates and other details relating to its engagements (SI Report, reference 28.10).
- On 6 March 2024, WAC requested a Word version of the draft consultation framework and Woodside provided it (SI Report, references 28.11, 28.12).
- On 5 September 2024, Woodside emailed WAC an invitation to its Quarterly Heritage Meetings (SI Report, reference 28.13).
- On 9 September 2024, Woodside invited WAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 25 September 2024 (SI Report, reference 83.1).
- On 25 September 2024, Traditional Owner members from WAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.2).
- On 3 October 2024, Woodside invited WAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 23 October 2024 (SI Report, reference 83.3).
- On 10 October 2024, Woodside emailed WAC regarding this EP (SI Report, reference 28.14), referring to correspondence sent to WAC on 3 October 2023, 24 October 2023, 3 November 2023, and 19 December 2023, correspondence from WAC on 19 December 2023 and a meeting on 20 October 2023, including notifying WAC that:
 - Consultation for this EP opened on 3 October 2023 when Woodside provided WAC consultation information, and closed on 2 November 2023 .
 - The EP was now publicly available on NOPSEMA's website (and providing a link) and is being assessed by NOPSEMA.
 - Woodside would shortly resubmit this EP for further assessment. The EP would be substantively the same as that published on the website and would include relevant feedback obtained during consultation.
 - Any feedback, claims or objections about the adverse impacts (if any) relating to the EP that WAC would like Woodside to consider as part of this resubmission, to be provided to Woodside no later than 24 October 2024.
 - Woodside acknowledged discussions relating to a framework agreement had been ongoing and were yet to be completed, and that consultation for this EP had occurred in parallel.
 - Woodside requested WAC provide any additional feedback about this EP by 24 October 2024 and provided details about how to do so.
 - Woodside had provided sufficient information, allowed a reasonable period of time for consultation and given a reasonable opportunity to provide details about the adverse impacts of the activity on WAC's functions, interests or activities, and looked forward to progressing discussions with WAC on framework agreements separately.
 - Feedback could continue to be provided during the life of the EP, including after consultation for the EP had closed, during assessment of the EP, and after the EP has been accepted by NOPSEMA, and that Woodside would continue to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP.
 - Should a claim or objection be received following the acceptance of the EP, Woodside would apply its Management of Change and Review process.
- On 10 October 2024, WAC attended Woodside's Quarter 3 Heritage Meeting in Roebourne (SI Report, reference 83.4). Matters relevant to this EP included:

- An explanation of State and Commonwealth regulatory requirements.
- An explanation of EMBA's and the process Woodside undertakes to identify Traditional Owner groups.
- How Traditional Owners could provide information to Woodside about cultural values, interests and activities.
- On 14 October 2024, Woodside was notified that cultural protocols relating to Sorry Business were in place for the Karratha and Roebourne area (28.15).
- On 21 October 2024, Woodside emailed WAC a reminder about this EP (SI Report, reference 28.16.8). The email included:
 - A reference to the consultation email update for this EP sent to WAC on 10 October September 2024.
 - A reminder that consultation for the preparation of this EP resubmission closes on 24 October 2024.
 - A request for information on how WAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
 - Woodside's commitment to managing gender-restricted or other culturally sensitive information, and working with WAC to understand how it would like information to be managed.
 - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
 - A request for WAC to provide information about the proposed activity to other individuals, as required.
- On 28 October 2024, Woodside attended WAC'S Board meeting (SI Report 28.17). Matters discussed that were relevant to this EP included:
 - Woodside's consultation processes.
 - **(2)** WAC asked about Woodside's spill reporting. **(2)** Woodside clarified its spill reporting processes.
- On 29 October 2024, WAC emailed Woodside to thank it for its presentation to the Board (SI Report, reference 28.18).
- On 15 November 2024, Woodside emailed WAC an invitation to its Quarterly Heritage meeting on 5 December 2024 (SI Report, reference 28.19).
- On 21 November 2024, NYFL emailed Woodside to advise that Sorry Business was taking part in the Roebourne Community (SI Report, reference 28.20).
- On 5 December 2024, WAC attended Woodside's Quarterly Heritage meeting (SI Report, reference 83.6). Matters discussed that were relevant to this EP include:
 - Woodside reminded attendees that it accepts feedback for the life of an EP.
 - Monthly community luncheons would be held in 2025.
- On 11 December 2024, Woodside became aware via a social media post from RRRKAC that due to the recent passings of two significant Elders cultural grieving protocols were underway (SI Report, reference 28.21).
- On 22 January 2025, Woodside emailed WAC a schedule for the 2025 Quarterly Heritage Meetings. WAC replied to acknowledge the email (SI Report, references 28.22 – 28.23).
- On 4 March 2025, Woodside emailed WAC an invitation to share stories and receives updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 5 March 2025 (SI Report, reference 83.7).
- On 5 March 2025, Traditional Owner members from WAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.8).

- On 13 March 2025, WAC attended Woodside's Quarterly Heritage Meeting (SI Report, reference 83.9). Matters discussed and/or raised relating to this EP included:
 - That consultation is open for the life of any EP and Woodside can schedule consultation meetings at times that are convenient to the community.
 - A reminder that Woodside hosts a community luncheon/yarning circle for all local Traditional Owners.
- On 24 March 2025, Woodside emailed WAC an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 26 March 2025 (SI Report, reference 83.10).
- On 26 March 2025, Traditional Owner members from WAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside discussed the process for writing EPs and how it communicates feedback from groups to NOPSEMA (SI Report, reference 83.11).
- On 8 April 2025, Traditional Owner members from WAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.13).
- On 16 May 2025, Woodside emailed WAC a reminder about the Quarterly Heritage Meeting scheduled for 4 June 2025 (SI Report, reference 28.24).
- On 4 June 2025, Woodside hosted its Quarterly Community Heritage meeting with Traditional Owners attended by members of NAC and WAC (SI Report, reference 83.14). Matters discussed relevant to this EP included:
 - Woodside provided an overview of the EP consultation process.
- On 22 July 2025, Woodside met with WAC to discuss two unrelated EPs (SI Report, reference 28.25). Matters relevant to this EP included:
 - (3) WAC asked if a piece of cultural heritage is identified, how would Traditional Owners be informed. (3) Woodside explained this process to WAC and confirmed that relevant Traditional Owner groups would be notified.
 - (2) WAC mentioned a recent incident in the Exmouth Gulf involving hydrocarbon release during decommissioning and questioned the discrepancy between the reported media spill volume and the reported Woodside spill volume. (2) Woodside explained the response and mitigation measures and acknowledged the complexity of spill calculations.
 - (2) WAC asked if there was an investigation from the regulator regarding the hydrocarbon release and queried the outcome. (2) Woodside took the question on notice.
 - (4) WAC asked about the mitigation measures for whales including how whales are spotted at night. (4) Woodside explained mitigation measures for noise, whale and marine sightings, and vessel maintenance.
 - (5) WAC expressed interest in being involved in ranger programs and the potential for ranger fee-for-service opportunities. (5) Woodside acknowledged this and encouraged WAC to remain in contact with Woodside.
- On 29 July 2025, WAC emailed Woodside to follow up on the consultation meeting (SI Report, reference 28.26). Matters relevant to this EP included:
 - (6) WAC stated that its Board confirmed a position that WAC should be consulted by proponents in respect of EPs where the relevant EMBA intersects within a general radius of 120km from the mouth of the Fortescue River. (6) Woodside notes this feedback.
 - (5) WAC sought Woodside's support to further build the capacity of the ranger team so that Yaburara and Mardudhunera (YM) people can be involved in the identification of cultural values, monitoring of risks associated with activities under the EP. WAC requested details of the appropriate person within Woodside to write a letter in support of implementing WAC ranger activities.

- (7) WAC stated a preference for holistic, rather than piecemeal engagement and requested Woodside undertake bespoke rather than generalised engagement with WAC. (7) Woodside notes this feedback.
- On 3 September 2025, Wong Goo Tt Oo, WAC and NAC attended Woodside's Quarterly Heritage Meeting (SI Report, reference 83.15). Matters discussed relating to this EP included:
 - Cultural heritage update.
 - Training and contracting opportunities.
 - Project updates.
- On 2 December 2025, Woodside emailed WAC an invitation to Woodside's Quarterly Heritage Meeting on 3 December 2025, as an opportunity for Woodside to provide updates on Woodside's activities to Traditional Owner groups and to receive feedback from the community (SI Report, reference 28.27).
- On 3 December 2025, WAC attended Woodside's Quarterly Heritage Meeting, at which Woodside stated that consultation for future EPs would recommence in Q1 2026 and showed an example of new animations videos used to support EP consultation (SI Report, reference 83.16).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) WAC has requested that Woodside and WAC enter into a framework agreement to provide for ongoing meaningful consultation a desire for ongoing engagement and partnership through a Framework Agreement.	(1) Woodside Assessment: Woodside has confirmed and accepts that WAC is seeking to establish a framework agreement for the purposes of ongoing consultation with Woodside. Woodside Response: Separate from consultation under regulation 25 of the Environment Regulations, Woodside has sent a draft consultation agreement in March 2024 and will work with WAC to finalise the agreement.	(1) Although consultation for the purpose of regulations 25 of the Environment Regulations is complete, Woodside will continue to engage with WAC through ongoing engagement and continue to progress the consultation agreement as part of Woodside's Program of Ongoing Engagement (Appendix G). No additional measures or controls are required.
(2) During ongoing consultation, WAC asked Woodside about oil spill reporting.	(2) Woodside assessment: Woodside aligns with industry guidance about oil spill reporting. Woodside response: Woodside adopts appropriate controls to prevent a hydrocarbon spill and has controls in place to respond in the highly unlikely event of a hydrocarbon spill as demonstrated in Sections 6.8 of the EP and Appendix I	(2) Woodside's Oil Spill Preparedness and Response Mitigation Assessment is in Appendix H and its Offshore Operations First Strike Plan is in Appendix I.
(3)	(3)	(3)

WAC asked if a piece of cultural heritage is identified, how would Traditional Owners be informed.	Woodside assessment: Woodside has processes in place to notify Traditional Owners if a piece of cultural heritage is identified during an activity. Woodside response: Woodside explained this process to WAC and confirmed that relevant Traditional Owner groups would be notified.	Processes relating to informing Traditional Owners are in Section 7.9 (Unexpected Finds Procedure).
(4) WAC asked about the mitigation measures for whales including how whales are spotted at night.	(4) Woodside assessment: Woodside includes mitigation measures for impacts on whales in its EPs. Woodside response: Woodside explained mitigation measures for noise, whale and marine sightings, and vessel maintenance.	(4) Mitigation measures relating to whales are in Section 6.7, 6.8 and routine reporting is outlined in Section 7.14.
(5) WAC expressed interest in being involved in ranger programs and the potential for ranger fee-for-service opportunities	(5) Woodside assessment: Woodside considers value in having rangers on the ground trained up in the highly unlikely event of an oil spill. It would be beneficial to an immediate response in an emergency situation. Woodside response: Woodside is in the process of developing a ranger funding program. WAC's request will be evaluated in accordance with the program's criteria upon its implementation. Woodside has provided ranger information to WAC.	(5) Ranger programs are able to be addressed as part of Woodside's Program of Ongoing Engagement (Appendix G).
(6) WAC should be consulted by proponents in respect of EPs where the relevant EMBA intersects within a general radius of 120km from the mouth of the Fortescue River.	(6) Woodside assessment: Woodside acknowledges this feedback. Woodside response: Woodside will consider this request for future EPs.	(6) No action required.
(7) During engagement about unrelated EPs, WAC stated a preference for holistic, rather than piecemeal engagement and requested Woodside undertake bespoke rather than generalised engagement with WAC.	(7) Woodside assessment: During Woodside's initial engagement with WAC on 17 June 2024 about this EP (6.2.38). Woodside requested WAC advise Woodside of its preferred method of consultation and if there was any support or specific information that WAC required as part of engagement.	(7) No action required.

	Woodside response: Woodside has met regulatory requirements for sufficient information, reasonable time, and reasonable opportunity for consultation. Woodside will respond to WAC's request.	
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Wirrawandi Aboriginal Corporation (WAC) for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on WAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 of the Environment Regulations consultation. - Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to WAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Asked for the consultation and information sheets to be distributed to members and individuals as required. - Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan. - Advised that WAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). - Woodside provided further information to WAC on 10 October 2024, which included: - The dates Woodside emailed WAC about the proposed activity. - That the original consultation commenced on 23 October and closed on 20 November 2023.		

- A link to the publicly available EP on NOPSEMA's website.
- Confirmation that Woodside will resubmit the EP for further assessment.
- That feedback, claims or objections about the adverse impacts (if any) relating to the EP that WAC would like Woodside to consider as part of the resubmission, should be provided to Woodside by 24 October 2024.
- That discussions relating to framework agreements can occur in parallel to EP consultation.
- That feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with WAC in October 2023, with a further consultation period in October 2024.
- Woodside has addressed and responded to WAC over 25 months, demonstrating a "reasonable period" of consultation.

Woodside asked WAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on WAC functions, interests or activities.

Robe River Kuruma Aboriginal Corporation (RRKAC)

RRKAC is established under the *Native Title Act 1993* (Cth) by the Robe River Kuruma people to represent the Robe River Kuruma people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 18 July 2023, Woodside emailed RRKAC NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*.
- On 26 July 2023, Woodside emailed RRKAC Woodside's planned Program of Ongoing Engagement with Traditional Custodians.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 284 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Please see *Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report)* for further details of this correspondence

Summary of information provided and record of consultation for this EP:

- On 3 October 2023, Woodside emailed RRKAC advising of the proposed activity (Record of Consultation, reference 1.69) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that RRKAC and its members may have within the EMBA, information on how RRKAC would like to engage, and requested that RRKAC provide information to other individuals as required.
- On 24 October 2023, Woodside sent a follow-up email enquiring if RRKAC had any questions relating to this EP and offering to schedule a consultation session with the members and/or board of RRKAC. No response has been received (SI Report, reference 29.1).

Ongoing engagement:

- Between 14 and 16 November 2023, Woodside and RRKAC exchanged emails about consultation support (SI Report, references 29.2, 29.3, 29.4).
- On 19 December 2023, Woodside emailed RRKAC wishing a happy festive season, thanking RRKAC for their contributions throughout the year and offering availability for consultation sessions (SI Report, reference 29.5).
- On 9 January 2024, Woodside emailed RRKAC following up on this activity and offering an opportunity for discussion. Woodside advised RRKAC of the best contact after 31 January 2024 (SI Report, reference 29.6).
- On 11 January 2024, Woodside and RRKAC (SI Report, reference 29.7), held a telephone discussion:
 - RRKAC have recently employed new personnel, RRKAC noted that once the new employees were settled in, RRKAC would be happy to consult with Woodside on relevant EPs.
 - **(1)** RRKAC noted that some RRKAC Country is on the coast (and would be affected by an oil spill or another such environmental incident), they feel that EMBA's are far too broad, and the areas covered by EMBA's are far too big and unfeasible.
- On 20 March 2024, Woodside and RRKAC held an online meeting (SI Report, reference 29.8). Woodside outlined
 - The purpose of engagement with Traditional Owner groups and PBC's.
 - **(1)** How Woodside consults on Environment Plans and seeks feedback on heritage and cultural values.
 - Opportunities for social investment programs such as rangers and opportunities for future meetings.
- On 26 March 2024, Woodside emailed RRKAC to follow up on the meeting, and to outline the upcoming activities for consultation, that reasonable financial support is available for meetings for the purpose of consultation, to ask for guidance on their preferred next steps, and to provide Woodside's Program of Ongoing Engagement (SI Report, reference 29.9).
- On 9 September 2024, Woodside invited RRKAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 25 September 2024 (SI Report, reference 83.1).
- On 3 October 2024, Woodside invited RRKAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 23 October 2024 (SI Report, reference 83.3).
- On 11 December 2024, Woodside became aware via a social media post from RRKAC that due to the recent passings of two significant Elders cultural grieving protocols were underway (SI Report, reference 29.10).

- On 19 December 2024, RRKAC emailed Woodside about a number of matters relating to other activities (SI Report, reference 29.11). In relation to the proposed activity and ongoing consultation, RRKAC:
 - (2) Considers its Heritage Advisory Committee (HAC) as the relevant person for the purpose of consultation and advised Woodside that RRKAC has increased capacity and will be in a position via its HAC to engage in consultation with Woodside in 2025. This involves subject matter experts reviewing the relevant material to be able to make a formal assessment and participating in meetings where Woodside present information to RRKAC.
 - (2) Advised Woodside that RRKAC has scheduled four HAC meetings in 2025 and inviting Woodside to a meeting on 18 February 2025.
 - (3) Informed Woodside that RRKAC is keen to discuss a seascape scale approach to understanding the potential risks and impacts to submerged heritage values, in relation to potential management measures contained in EPs.
- (2) On 14 January 2024, Woodside accepted RRKAC's invitation to the HAC meeting on 18 February 2025 (SI Report, reference 29.12).
- (3) On 14 January 2024, Woodside replied to RRKAC's email of 19 December 2024 responding to a number of claims by RRKAC relating to other EPs (SI Report, reference 29.13). In regard to seascape mapping, Woodside stated it did not have plans to conduct bathymetric surveys but was open to meeting with RRKAC to discuss publicly available datasets and Woodside's own mapping of deeper water areas.
- (2) On 15 January 2025, RRKAC emailed Woodside a response to its email on 14 January 2025 and provided details relating to the planned HAC meeting (SI Report, reference 29.14).
- (2) On 29 January 2025, Woodside emailed RRKAC following a phone call, the email confirmed agreement between Woodside and RRKAC to defer Woodside attending the HAC meeting until May 2025 (SI Report, reference 29.15).
- On 24 March 2025, Woodside emailed RRKAC an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 26 March 2025 (SI Report, reference 83.10).
- On 7 April 2025, Woodside emailed RRKAC an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 8 April 2025 (SI Report, reference 83.12).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) In response to a previous activity, RRKAC noted that some RRKAC country is on the coast (and would be affected by an oil spill or another such environmental incident), that EMBA are broad, and the areas covered by EMBA are big and unfeasible.	(1) Woodside assessment: Woodside aligns with industry guidance in developing the EMBA. Many replicate model simulations are completed to understand the potential behaviour of the worst-case release under various wind, wave and current conditions and these are combined to create an overall EMBA. Woodside response: Woodside has explained the consultation process to RRKAC. Woodside adopts appropriate controls to prevent a hydrocarbon spill and has controls in place to respond in the highly unlikely	(1) Woodside's Oil Spill Preparedness and Response Mitigation Assessment is in Appendix H and its Offshore Operations First Strike Plan is in Appendix I.

	event of a hydrocarbon spill as demonstrated in Sections 6.8 of the EP and Appendix I	
(2) RRKAC informed Woodside that it considers RRKAC's Heritage Advisory Committee (HAC) as the relevant person for the purpose of consultation and advised Woodside that RRKAC has increased capacity and will be in a position via its HAC to engage in consultation with Woodside in 2025. RRKAC also advised Woodside that RRKAC has scheduled four HAC meetings in 2025 and inviting Woodside to a meeting on 18 February 2025.	(2) Woodside assessment: Woodside acknowledges that RRKAC's HAC has increased capacity to regularly meet with Woodside in 2025 for the purpose of EP consultation. Woodside has emailed RRKAC consistently throughout the period of time that this EP has been open for consultation and has provided RRKAC with sufficient information, a reasonable opportunity and reasonable time to provide feedback for EPs. Woodside response: Woodside has accepted RRKAC's invitation to meet with HAC throughout 2025 and present information about current and future EPs. Woodside also confirms that it has complied with regulation 25 of the Environment Regulations for the purposed of this activity and related EP.	(2) Not required.
(3) RRKAC raised the potential of a bathymetric survey of the coastline, working with all relevant coastal groups.	(3) Woodside Assessment: Woodside does not have plans to conduct regional bathymetric surveys but there are publicly available datasets covering coastal regions. Woodside Response: Woodside is seeking a meeting with RRKAC to find ways to interpret existing data sets to generate information which may be useful to RRKAC.	(3) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation Robe River Kuruma Aboriginal Corporation (RRKAC) for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on RRKAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation.
- Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to RRKAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan.
- Advised that RRKAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with WAC in October 2023.
- Woodside has addressed and responded to RRKAC over 27 months, demonstrating a "reasonable period" of consultation.

Woodside asked RRKAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25(1) of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on RRKAC functions, interests or activities.

Ngarluma Aboriginal Corporation (NAC)

NAC is established under the *Native Title Act 1993* (Cth) by the Ngarluma people to represent the Ngarluma people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 18 July 2023, Woodside emailed NAC NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*. This email also requested that NAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.
- On 26 July 2023, Woodside emailed NAC Woodside's planned Program of Ongoing Engagement with Traditional Custodians.
- (1) On 18 September 2023, NAC emailed Woodside proposing the establishment of a joint working group to manage the consultation process for Woodside's Environment Plans. NAC explained the purpose of the group and noted the positions and roles of the NAC representatives that would be included in the working group. NAC also discussed seeking funding from Woodside to support the formation of this new working group and pointed out key actions moving forward, the timeframe of events and attached a budget summary.
- (1) On 10 October 2023, Woodside emailed NAC approving the proposal in principle and affirming that Woodside is looking forward to ongoing consultation. Woodside stated that some administrative process still needed to be arranged and asked for NAC's availability to schedule a meeting.
- (1) (1) Between 19 October – 13 November 2023, Woodside and NAC exchanged emails regarding:
 - Previous correspondence about the establishment of a joint working group and Woodside's consultation process.
 - The circulation of a draft engagement letter and NAC requesting an expected agenda for future meetings.
 - Woodside providing NAC with a list of priorities for discussion and EPs, in order of priority, that require consultation.
 - NAC informing Woodside that it would share the draft engagement protocol on that day and would address the matters via a working group.
 - NAC also requested the timeframe to work through the EP due for consultation.
 - NAC submitting a draft engagement protocol letter and scheduling a meeting.
- (1) On 13 November 2023, NAC emailed Woodside following a telephone discussion about other unrelated matters to this EP noting a lack of availability to consult on EPs prior to 25 November 2023 and requesting a response to the draft Engagement Protocol.
- (1) On 13 November 2023, Woodside emailed NAC acknowledging that Woodside noted that NAC was not available for consultation prior to 25 November 2023, noting that Woodside would respond to the draft engagement protocol as soon as possible.

Please see *Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report)* and *Angel Facility Operations EP (Appendix F and SI Report)*.

Summary of information provided and record of consultation for this EP:

- On 17 November 2023 Woodside emailed NAC advising of the proposed activity (Record of Consultation, reference 1.70) and provided a simplified Consultation Summary Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that NAC and its members may have within the EMBA, information on how NAC would like to engage, and requested that

NAC provide information to other individuals as required. Woodside requested information and offered further information, support, and any assistance required by NAC to participate in consultation.

Ongoing engagement:

- (1) On 1 March 2024, Woodside emailed NAC a draft consultation framework agreement for review (SI Report reference, 30.1).
- On 17 April 2024, NYFL emailed Woodside noting it was attending to Sorry Business and per cultural protocols would require time within the community and engagement would be delayed until appropriate to recommence (SI Report reference, 30.2).
- On 26 April 2024, Woodside emailed NAC a reminder relating to its draft consultation agreement for review and comment, requesting a status of the review and offering to provide further information (SI Report, reference 30.3).
- On 5 September 2024, Woodside emailed NAC to invite it to Woodside's Quarterly Heritage Meetings, as an opportunity for Woodside to provide updates on Woodside's activities to Traditional Owner groups and to receive feedback from the community. Woodside also requested a list attendees and attendance fees (SI Report, reference 30.4).
- On 9 September 2024, Woodside invited NAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 25 September 2024 (SI Report, reference 83.1).
- On 22 September 2024, Woodside emailed NAC about an administrative matter relating to the Quarterly Heritage Meetings (SI Report, reference 30.5).
- On 25 September 2024, Traditional Owner members from NAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.2).
- On 3 October 2024, Woodside invited NAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 23 October 2024 (SI Report, reference 83.3).
- On 10 October 2024, Woodside emailed NAC regarding this EP (SI Report, reference 30.6), including notifying NAC that:
 - Consultation for this EP opened on 17 November 2023 when Woodside provided NAC with consultation information.
 - The EP was now publicly available on NOPSEMA's website (and provided a link) and is being assessed by NOPSEMA.
 - Woodside would shortly resubmit this EP for further assessment and that the EP will be substantively the same as that published on the website and will include relevant feedback obtained during consultation.
 - Any feedback, claims or objections about the adverse impacts (if any) relating to the EP that NAC would like Woodside to consider as part of this resubmission, to be provided to Woodside by no later than 24 October 2024.
 - Feedback can be provided by email, phone, directly to the engagement team, or directly to NOPSEMA and providing a range of contact details.
 - Woodside acknowledged discussions relating to a framework agreement had been ongoing and is yet to be completed, and that consultation for this EP had occurred in parallel.
 - Woodside had provided sufficient information, allowed a reasonable period of time for consultation and given a reasonable opportunity to provide details about the adverse impacts of the activity on NAC's functions, interests or activities, and looked forward to progressing discussions with NAC on framework agreements separately.

- Feedback could continue to be provided during the life of the EP, including after consultation for the EP had closed, during assessment of the EP, and after the EP has been accepted by NOPSEMA, and that Woodside would continue to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP.
- Should a claim or objection be received following the acceptance of the EP, that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside would apply its Management of Change and Review process as appropriate.
- Woodside invited NAC to contact Woodside if it had any questions.
- On 10 October 2024, NAC attended Woodside's Quarter 3 Heritage Meeting in Roebourne where Woodside presented to Traditional Owners (SI Report, reference 83.4). Matters relevant to this EP included:
 - Consultation outcomes for Woodside EPs.
 - An explanation of State and Commonwealth regulatory requirements.
 - An explanation of EMBA's.
 - The process Woodside undertakes to identify Traditional Owner groups.
 - How Traditional Owners can provide information to Woodside about cultural values, interests and activities.
 - If there are any other First Nations groups who should be consulted.
- On 14 October 2024, Woodside was notified that the cultural protocols associated with Sorry Business were in place, and that industry and government stakeholders had been asked to minimise contact with Traditional Owner groups including NAC as a sign of respect (SI Report, reference 30.7).
- On 21 October 2024, Woodside emailed NAC a reminder about the proposed activity (SI Report, reference 30.8). The email included:
 - A reference to the original consultation email for this EP sent to NAC on 30 September 2024, which included Summary and Consultation Information Sheets.
 - A reminder that consultation for the preparation of this EP closes on 30 October 2024.
 - A request for information on how NAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
 - Woodside's commitment to managing gender-restricted or other culturally sensitive information, and working with NAC to understand how it would like information to be managed.
 - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
 - A request for NAC to provide information about the proposed activity to other individuals, as required.
- On 23 October 2024, Traditional Owner members from NAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.5).
- On 15 November 2024, Woodside emailed NAC an invitation to a Quarterly Heritage meeting in December (SI Report, reference 30.9).
- On 5 December 2024, NAC attended Woodside's Quarterly Heritage Meeting (SI Report, reference 83.6). Relevant matters discussed included:

- An overview of upcoming EPs
 - An explanation of ongoing consultation.
 - Reminder about monthly community luncheons.
- On 11 December 2024, Woodside became aware through social media about the passing of two significant Elders. This news was relevant to NAC (SI Report, reference 30.10).
- On 22 January 2025, Woodside emailed NAC information about Quarterly Heritage meetings scheduled for 2025 (SI Report, reference 30.11).
- On 4 March 2024, Woodside emailed NAC an invitation to share stories and receives updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 5 March 2025 (SI Report, reference 83.7).
- On 5 March 2025, Traditional Owner members from NAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.8).
- On 13 March 2025, NAC attended Woodside's Quarterly Heritage Meeting (SI Report, reference 83.9). Matters discussed and/or raised relating to this EP included:
 - That consultation is open for the life of any EP and Woodside can schedule consultation meetings at times that are convenient to the community.
 - A reminder that Woodside hosts a community luncheon and yarning circle for all local Traditional Owners.
- On 24 March 2025, Woodside emailed NAC an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 26 March 2025 (SI Report, reference 83.10).
- On 26 March 2025, Traditional Owner members from NAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside discussed the process for writing EPs and how it communicates feedback from groups to NOPSEMA (SI Report, reference 83.11).
- On 7 April 2025, Woodside emailed NAC an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 8 April 2025 (SI Report, reference 83.12).
- On 8 April 2025, Traditional Owner members from NAC attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.13).
- On 15 May 2025, Woodside emailed NAC an invitation to Woodside's Quarterly Heritage Meeting on 4 June 2025, as an opportunity for Woodside to provide updates on Woodside's activities to Traditional Owner groups and to receive feedback from the community (SI Report, reference 30.12).
- On 4 June 2025, Woodside hosted a Quarterly Community Heritage meeting with Traditional Owners including members of NAC and WAC (SI Report, reference 83.14). Matters discussed relevant to this EP included:
 - Woodside provided an overview the consultation process with relevant First Nations persons.
- On 5 June 2025, Woodside emailed NAC confirming the attendance of two NAC representatives at the Quarterly Heritage Meeting held the previous day (SI Report, reference 30.13).
- On 3 September 2025, Wong Goo Tt Oo, WAC and NAC attended Woodside's Quarterly Heritage Meeting (SI Report, reference 83.15). Matters discussed relating to this EP included:
 - Cultural heritage update.

– Training and contracting opportunities. – Project updates. • On 2 December 2025, Woodside emailed NAC an invitation to Woodside's Quarterly Heritage Meeting on 3 December 2025, as an opportunity for Woodside to provide updates on Woodside's activities to Traditional Owner groups and to receive feedback from the community (SI Report, reference 30.14). • On 3 December 2025, NAC attended Woodside's Quarterly Heritage Meeting, at which Woodside stated that consultation for future EPs would recommence in Q1 2026 and showed an example of new animations videos used to support EP consultation (SI Report, reference 83.16).		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) During prior engagement, NAC proposed establishing a Joint Working Group to engage in meetings with Woodside for ongoing consultation. NAC noted it had they have capacity issues and required resourcing to cover costs of meeting.	(1) Woodside assessment: An agreement with NAC aligns with Woodside's <i>Program of Ongoing Engagement with Traditional Custodians</i> and will frame ongoing consultation processes, including with the NAC Working Group. Woodside response: Woodside will finalise an agreement with NAC to work with the NAC Working Group. The draft agreement sent to NAC in March 2024, will be used to frame ongoing consultation during the life of the EP.	(1) Woodside's program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on EPs is currently being implemented, the draft agreement with NAC (among other things) will set out the process for ongoing engagement. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i>, (Appendix G). No additional measures or controls are required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with NAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on NAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation.
- Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to NAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan.
- Advised that NAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).
- Woodside provided further information to NAC on 10 October 2024, which included:
 - The dates Woodside emailed NAC about the proposed activity.
 - That the original consultation commenced on 23 October and closed on 20 November 2023.
 - A link to the publicly available EP on NOPSEMA's website.
 - Confirmation that Woodside will resubmit the EP for further assessment.
 - That feedback, claims or objections about the adverse impacts (if any) relating to the EP that NAC would like Woodside to consider as part of the resubmission, should be provided to Woodside by 24 October 2024.
 - That discussions relating to framework agreements can occur in parallel to EP consultation.
 - That feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Woodside commenced consultation with NAC in November 2023, with a further consultation period in October 2024.
- Woodside has addressed and responded to NAC over 26 months, demonstrating a “reasonable period” of consultation.

Woodside asked NAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25(1) of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on NAC functions, interests or activities.

Yindjibarndi Aboriginal Corporation (Yindjibarndi)

Yindjibarndi is established under the *Native Title Act 1993* (Cth) by the Yindjibarndi people to represent the Yindjibarndi people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 26 July 2023, Woodside emailed Yindjibarndi Woodside’s planned Program of Ongoing Engagement with Traditional Custodians.
- (1) On 1 August 2023, Yindjibarndi emailed Woodside acknowledging 26 July 2023 email, and advising that NYFL would manage Oil and Gas matters on behalf of Yindjibarndi (SI Report, reference 31.2). (1) Woodside accepts Yindjibarndi’s right to be represented at their own choosing and will engage with NYFL for ongoing consultation.

Summary of information provided and record of consultation for this EP:

- On 19 October 2023, Woodside emailed Yindjibarndi (via NYFL) of the proposed activity (Record of Consultation, reference 1.71) and provided a Consultation Information Sheet (including a link to the detailed information sheet on Woodside’s website) as well as a summary overview fact sheet. The email requested information on the interests that Yindjibarndi and its members may have within the EMBA, information on how Yindjibarndi would like to engage, and requested that Yindjibarndi provide information to other individuals as required.

Ongoing engagement:

- On 9 September 2024, Woodside invited Yindjibarndi (via NYFL) to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 25 September 2024 (SI Report, reference 83.1).
- On 25 September 2024, Traditional Owner members from Yindjibarndi (via NYFL) attended Woodside’s Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.2).
- On 3 October 2024, Woodside invited Yindjibarndi (via NYFL) to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 23 October 2024 (SI Report, reference 83.3).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 14 October 2024, Woodside was notified that the cultural protocols associated with Sorry Business were in place, and that industry and government stakeholders had been asked to minimise contact with Traditional Owner groups including Yindjibarndi as a sign of respect (SI Report, reference 31.1).
- On 21 October 2024, Woodside emailed Yindjibarndi (via NYFL) a reminder about the proposed activity (SI Report, reference 31.2). The email included:
 - A reference to the original consultation email for this EP sent to Yindjibarndi on 27 September 2024, which included Summary and Consultation Information Sheets.
 - A reminder that consultation for the preparation of this EP closes on 30 October 2024.
 - An update on the activity's well location co-ordinates and water depths.
 - A request for information on how Yindjibarndi would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
 - Woodside's commitment to managing gender-restricted or other culturally sensitive information, and working with Yindjibarndi to understand how it would like information to be managed.
 - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
 - A request for Yindjibarndi to provide information about the proposed activity to other individuals, as required.
- On 21 October 2024, Yindjibarndi (via NYFL) emailed Woodside asserting (SI Report, reference 31.3):
 - **(2)** No formal consultation had taken place between NYFL, in its capacity as the delegated representative for Yindjibarndi, and Woodside on this EP and others.
 - **(2)** Woodside's emails did not meet the standard of meaningful consultation.
 - **(3)** Woodside has provided NYFL with a draft consultation agreement but had declined to agree with NYFL's estimated costs to proceed with the agreement.
 - **(3)** NYFL would progress consultation on this EP and others once the consultation agreement had been formalised.
 - **(2)** Woodside note in any record provided to NOPSEMA that NYFL had not been consulted on this EP and others.
- On 23 October 2024, Traditional Owner members from Yindjibarndi attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.5).
- On 2 November 2024, Woodside's First Nations spoke with relevant persons from Yindjibarndi and Elders at the Dampier Beachside Markets (SI Report, reference 33.4). The conversations included:
 - Information about Woodside's activities and related EPs including the proposed activity.
 - An offer to further consult and meet face to face with Yindjibarndi and Elders.
 - Reference to printed Summary Information Sheets for a number of Woodside activities.
 - Elders noted they had no feedback, objections or claims relating to the proposed activity, and were comfortable with the information being sent via Yindjibarndi. Woodside notes and respects the feedback from Elders.
 - Yindjibarndi noted that upcoming AGMs, Sorry Business and Lore will impact its availability to consult over the next few months

- On 4 November 2024, Woodside emailed NYFL as the delegated representative for Yindjibarndi in response to statements made in NYFL's email on 21 October 2024 (SI Report, reference 31.5). The email:
 - (3) Responded to NYFL's cost estimates and rates and reiterated that they are excessive, and the rates quoted by Yindjibarndi related to the North West Shelf agreements and were not consistent with reasonable rates for enabling and supporting consultation on this EP. This is particularly so where the high rates quoted by Yindjibarndi were for an initial review of a 7-page agreement.
 - (2) Offered to meet and discuss this issue further anytime. And that Woodside would be available to meet in person in Ieramungadu in the week of 18 November 2024.
 - (2) Confirmed that Woodside's use of email as one of the methods to engage in consultation correspondence mirrored what appears to be Yindjibarndi's primary approach of emailing consultation correspondence. However, Woodside is also happy to discuss this EP and the various other EPs Yindjibarndi has listed in its recent correspondence.
 - (2) Reiterated that the ongoing negotiation of a consultation framework agreement can and continues to occur in parallel to consultation for EPs.
 - (2) Included a table showing the status of each of the EPs referenced by Yindjibarndi in its letter. This list includes Scarborough EPs which Yindjibarndi was consulted on (although now is saying it has not been consulted on) and which have been accepted by NOPSEMA.
- (2, 2) Between 8 – 20 November 2024, emails were exchanged between NYFL (as the delegated representative for Yindjibarndi) and Woodside regarding the 4 November 2024 email and requests to meet regarding the draft consultation agreement. Please refer to NYFL Appendix F and SI Report, reference 62.0 for further information.
- On 4 March 2025 Woodside emailed NYFL an invitation to share stories and receives updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 5 March 2025 (SI Report, reference 83.7).
- On 5 March 2025, Traditional Owner members from NYFL attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.8).
- On 24 March 2025, Woodside emailed Yindjibarndi an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 26 March 2025 (SI Report, reference 38.10).
- On 26 March 2025, Traditional Owner members from Yindjibarndi attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside discussed the process for writing EPs and how it communicates feedback from groups to NOPSEMA (SI Report, reference 83.11).
- On 7 April 2025, Woodside emailed Yindjibarndi an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 8 April 2025 (SI Report, reference 83.12).
- On 8 April 2025, Traditional Owner members from Yindjibarndi attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.13).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1)	(1) Woodside assessment: Woodside accepts	(1) Not required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Yindjibarndi has instructed Woodside that it will be represented by NYFL in ongoing discussion about EPs.	Yindjibarndi's right to be represented at their own choosing. Woodside response: Woodside will engage with NYFL on behalf of Yindjibarndi for ongoing consultation related to this activity.	
(2) NYFL has acknowledged it supports an agreement to enable a process of consultation.	(2) Woodside assessment: Separate from consultation under Regulation 25 of the Environment Regulations, Woodside is open to engaging with a joint First Nations framework for consultation, however, notes that this is not required to undertake and/or complete consultation in the course of preparing this EP. Sufficient information to allow informed assessment has already been provided by other means. Woodside has an existing engagement framework in place with NYFL which enables regular (quarterly) communication about Woodside activities. Feedback from NYFL on 27 October 2023 requested Woodside develop a draft consultation framework. Woodside response: Woodside sent a 7-page draft consultation framework to NYFL in March 2024 for its consideration.	(2) Woodside is implementing a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i> , (Appendix G). This includes continued engagement regarding the proposed Framework Agreement which would be applied to ongoing consultation for this activity. Woodside will continue to consult following acceptance of the EP, as set out in Section 7.15 of the EP.
(3) NYFL has stated no formal consultation had taken place between NYFL and Woodside on this EP. NYFL would progress consultation on this EP once the draft consultation agreement was finalised.	(3) Woodside assessment: Woodside rejects NYFL's assertion that has not been consulted on this EP. Woodside began consulting NYFL on 8 July 2024 and has provided sufficient information, a reasonable period of time, and reasonable opportunity for NYFL to provide feedback. Woodside has clearly communicated to NYFL that consultation for this EP and others has occurred in parallel to negotiations about the draft consultation agreement. Woodside notes that the consultation agreement is not required to undertake and/or consult with NYFL on EPs. Woodside response: The information provided by Woodside meets the requirements of regulation 25 of	(3) Not required.

	the Environment Regulations for the reasons set out above.	
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation Yindjibarndi Aboriginal Corporation (YAC) for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on Yindjibarndi's preferred method of consultation. Yindjibarndi instructed Woodside that it will be represented by NYFL. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 of the Environment Regulations consultation. - Provided Consultation Information Sheet and Consultation Summary Sheets developed by Indigenous staff to Yindjibarndi. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Confirmed the purpose of consultation and set out in detail what was being sought through consultation. - Asked for the information and request for feedback be distributed to members and individuals as required. - Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan". - Advised that Yindjibarndi can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). Reasonable Period: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).

- Woodside commenced consultation with Yindjibarndi in October 2023.
- Woodside has responded to Yindjibarndi/NYFL over 27 months, demonstrating a “reasonable period” of consultation.

Woodside asked Yindjibarndi if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on Yindjibarndi functions, interests, or activities.

Wanparta Aboriginal Corporation (Wanparta)

Wanparta is established under the *Native Title Act 1993* (Cth) by the Ngarla people to represent the Ngarla people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 18 July 2023, Woodside emailed Wanparta NOPSEMA’s *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*.
- On 26 July 2023, Woodside emailed Wanparta Woodside’s planned *Program of Ongoing Engagement with Traditional Custodians*.

Please see Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report) for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 5 October 2023, Woodside emailed Wanparta advising of the proposed activity (Record of Consultation, reference 1.72) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside’s website) as well as a summary overview fact sheet. The email requested information on the interests that Wanparta and its members may have within the EMBA, information on how Wanparta would like to engage, and requested that Wanparta provide information to other individuals as required.
- On 6 October 2023, Wanparta emailed Woodside thanking them for the previous summary email (5 October 2023) and stated that it will bring all the 4 October 2023 items to the Board for further consideration and would revert shortly after (SI Report, reference 32.1).
- On 7 November 2023, Woodside emailed Wanparta following up previous correspondence (6 October 2023) and to check if there was any further information Wanparta would like from Woodside regarding this EP. No response was received (SI Report, reference 32.2).
- (1) On 13 November 2023, Wanparta emailed Woodside requesting funding to assist with ongoing consideration of Woodside EPs. Wanparta noted the consultation meeting to be held between Wanparta and Woodside in February 2023 (SI Report, reference 32.3).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- (1) On 22 November, Woodside acknowledged Wanparta's requests and agreed to seek out available options for funding (SI Report, reference 32.4).
- From 24 - 28 November 2023, Woodside and Wanparta exchanged emails seeking availability for a phone call (SI Report, reference 32.5 – 32.8).
- On 30 November 2023, Wanparta emailed Woodside in relation to a financial matter unrelated to this EP, also suggesting a date for a directors' meeting for the purposes of ongoing consultation across EPs in Karratha on 23 February 2024 (SI Report, reference 32.9).
- On 23 February 2024, Wanparta emailed Woodside to confirm availability for a meeting on 23-24 April 2024 (SI Report, reference 32.10).
- On 26 February 2024, Woodside emailed Wanparta to confirm the 23-24 April dates for a meeting, confirming the process regarding names, accommodation and travel logistics (SI Report, reference 32.11).
- Between 16-22 April, Woodside and Wanparta exchanged emails regarding logistics and funding for a meeting for consultation on another activity and a site visit with the Wanparta Board, including a draft agenda for the meeting and Wanparta emailing to Woodside its (2) Ngarla Ranger Program Proposal (SI Report, references 32.12 – 32.20).

Ongoing engagement:

- On 24 April 2024, Woodside met with Wanparta at Murujuga (SI Report, reference 32.21). Woodside presented an overview of EPs and ongoing consultation in 2024, and provided information on another activity, Aboriginal employment, and (2) ranger programs. Wanparta informed Woodside that there were no issues following the discussion..
- On 6 May 2024, Wanparta emailed Woodside following the meeting on 24 April 2024 (SI Report, reference 32.22). Matters relevant to this EP include:
 - (3) The Ngarla People have a deep spiritual connection to Sea Country.
 - (3) The Ngarla peoples' totem species – the octopus, stingray, spiny bream fish and kestrel are of great significance.
 - (3) The protection and management of marine life and healthy ocean plays a significant role in their lore, culture and customs.
- (3) On 30 May 2024, Woodside emailed Wanparta thanking for the opportunity to meet the Board and acknowledges and supports the significance of the Ngarla's People totem species, the continue protection and management of marine life, and their right to practice lore, culture and custom (SI Report, reference 32.23).
- On 28 August 2024, Woodside and Wanparta met in Port Hedland (SI Report, reference 32.24). Matters relevant to this EP included:
 - (2) Wanparta asked Woodside for an update on its Ranger Program Proposal.
 - (2) Woodside responded that the proposal was under assessment.
- On 9 May 2025, Woodside met with Wanparta to discuss an unrelated EP (SI Report, reference 32.25). Matters relevant to this EP included:
 - (4) Wanparta enquired about whale and turtle breeding and migration pathways. (4) Woodside explained that it takes factors such as these into consideration and puts mitigation measures in place in the EP to address this.
 - (5) Wanparta asked if Woodside records whale observations. (5) Woodside noted it uses available research and that staff have a duty to report wildlife sightings.
 - (6) Wanparta provided feedback that more visual learning material would aid consultation. (6) Woodside acknowledged the importance of visual aids and noted that animation videos are currently being developed to support Traditional Owners with the EP consultation process.
 - (7) Wanparta enquired about support for Ranger Programs. (7) Woodside provided a Ranger Program update.

- (3) Wanparta noted that a healthy Sea Country = a healthy marine life = Ngarla food source = healthy Ngarla People. (3) Woodside acknowledged this feedback.
- (8) Wanparta noted concerns around maintaining sustainable fish stock post operations during decommissioning. (8) Woodside noted that the EPs being discussed at the meeting were not in relation to decommissioning and that it assesses the environmental impacts of removing infrastructure.
- (9) Wanparta questioned if Woodside monitors islands, in particular nesting shore birds. (9) Woodside took the question on notice.
- (10) Wanparta noted that there is ethnohistorical evidence of Ngarla occupation on islands. (10) Woodside acknowledged this cultural value.
- On 16 May 2025, Wanparta emailed Woodside a letter that summarised outcomes of a meeting between Wanparta and Woodside on 9 May 2025 (SI report B, reference 32.26).
- On 10 June 2025, Woodside emailed Wanparta responding to its email of 16 May 2025 (SI Report, reference 32.27). The letter included Woodside's responses to the summarised outcomes raised by Wanparta, as well as questions Woodside took on notice from the consultation meeting on 9 May 2025:
 - (9) Wanparta asked if Woodside will monitor the islands within the Ngarla Determination Area. (9) Woodside noted that it does not currently monitor islands within the Ngarla Determination Area under the proposed activity program for an unrelated EP, noting that the islands are outside of the EMBA for that EP.
 - (1) Wanparta raised that in the Ngarla People's view healthy Sea Country = a healthy marine life = Ngarla food source = healthy Ngarla People. (1) Woodside has noted these interests.
 - (8) Wanparta noted that Woodside should maintain sustainable fish stocks post operations. (8) Woodside recognises the importance of maintaining sustainable fish stocks post operations and acknowledges that offshore platforms and pipelines can become habitats for various fish species over time. Woodside also provided further details of research underway and provided details of Woodside's regulatory expectations.
 - (9) Woodside took a question on notice to seek more information on research activities relating to the monitoring of shorebirds. (9) Woodside provided Wanparta with information on shorebirds and noted that since 2016, Woodside has partnered with BirdLife Australia on programs focused on migratory shorebirds.
 - (7) Woodside took a question on notice to continue discussion on social investment opportunities and ranger programs. (7) Woodside is in the process of developing a Ranger Funding Program. Woodside noted that Wanparta's request will be evaluated in accordance with the Program's criteria upon its implementation.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Wanparta requested funding to participate in ongoing consultation.	(1) Woodside Assessment: Woodside supports reasonable funding for Traditional Custodians to allow for consultation on proposed activities. Woodside Response: Woodside has agreed to provide support to Wanparta for consultation purposes.	(1) Not required
(2)	(2)	(2)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Wanparta has expressed interest in a range of social investment opportunities including a ranger program and have provided a Ranger Program proposal for Woodside's consideration.	Woodside Assessment: A framework agreement is an effective mechanism for social investment opportunities, including for a ranger program and ongoing consultation. It aligns with Woodside's <i>Program of Ongoing Engagement with Traditional Custodians</i>. Ranger program funding may allow Traditional Custodians to be involved in spill response. Woodside Response: Woodside is continuing to work with Wanparta regarding social investment opportunities.	Woodside's program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on EPs is currently being implemented, an agreement with Wanparta (among other things) could address social investment in ranger programs and would set out the process for ongoing engagement. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i> , (Appendix G). No additional measures or controls are required
(3) Wanparta stated that water and the ocean were extremely important to them, and they had a responsibility to look after ocean and lore. They noted the bream, octopus, stingray and kestrel as totemic species.	(3) Woodside Assessment: Woodside assessed Wanparta's interest in water to represent potential cultural values. Woodside Response: Wanparta's interests and potential cultural values have been recorded in the EP, the potential impact on the interests and values, including controls, have been assessed.	(3) Woodside updated Section 4.9 to record Wanparta's interests and potential cultural values and assessed potential impact on these, including controls, in Section 6 and 7. Woodside is implementing a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i> (Appendix G). This includes continued engagement regarding the proposed Framework Agreement which will be applied to ongoing consultation. No additional measures or controls are required.
(4) Wanparta enquired about whale and turtle breeding and migration pathways.	(4) Woodside assessment: Woodside assesses risks to marine life and puts in place mitigation measures. Woodside response: Woodside advised Wanparta that it assesses risks to marine life and puts in place mitigation measures.	(4) Woodside updated Section 4.9 to record Wanparta's interests and potential cultural values and assessed potential impact on these, including controls, in Section 6 and 7.
(5) Wanparta asked if Woodside records whale observations.	(5) Woodside assessment: Woodside continues to use all available research and staff have a duty to report whale sightings. Woodside response: Woodside explained to Wanparta how whale sightings are managed.	(5) Woodside updated Section 4.9 to record Wanparta's interests and potential cultural values and assessed potential impact on these, including controls, in Section 6 and 7.

(6) Wanparta provided feedback that more visual learning material would aid consultation.	(6) Woodside assessment: Woodside welcomes this feedback and is committed to consulting with Traditional Owners in an appropriate way. Woodside response: Woodside acknowledged the importance of visual aids and confirmed it is developing materials such as animations to further support future consultation.	(6) No action required.
(7) Wanparta enquired about support for Ranger Programs.	(7) Woodside assessment: Woodside sees the value of groups having ranger programs. Woodside response: Woodside is in the process of developing a ranger funding program. Wanparta's request will be evaluated in accordance with the program's criteria upon its implementation. This is noted in historical feedback from Wanparta (2).	(7) Please refer to (2).
(8) Cultural value: maintaining sustainable fish stock post operations during decommissioning.	(8) Woodside assessment: Woodside recognises the importance of maintain sustainable fish stocks post operations and acknowledges that offshore platforms and pipelines can become habitats for fish over time. Woodside response: Woodside acknowledges Wanpartas's cultural values.	(8) Woodside updated Section 4.9 to record Wanparta's interests and potential cultural values and assessed potential impact on these, including controls, in Section 6.
(9) Wanparta questioned if Woodside monitors islands within the Ngarla Determination area, in particular nesting shore birds	(9) Woodside assessment: Woodside does not currently monitor these islands. Woodside response: Woodside advised Wanparta that it does not currently monitor islands outside of the EMBA of the EP for which this feedback was raised.	(9) Woodside updated Section 4.9 to record Wanparta's interests and potential cultural values and assessed potential impact on these, including controls, in Section 6.
(10) Cultural Value: • Dreamtime stories connected to nearshore islands particularly Solitary Island / Jarrkunpungu.	(10) Woodside assessment: This value has been identified through Woodside's data collection processes (consultation). Woodside has noted this value in the EP and assessed that Solitary Island is not in the EMBA for this activity.	(10) Woodside updated Section 4.9 to record Wanparta's interests and potential cultural values and assessed potential impact on these, including controls, in Section 6.

There is ethnohistorical evidence of Ngarla occupation on these islands.	Woodside response: Woodside acknowledges Wanparta's cultural values.	
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Wanparta Aboriginal Corporation for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on Wanparta's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 of the Environment Regulations consultation. - Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to Wanparta. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Asked for the consultation and information sheets to be distributed to members and individuals as required. - Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan. - Advised that Wanparta can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). Reasonable Period: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.		

- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).
- Woodside commenced consultation with Wanparta Aboriginal Corporation in October 2023.
- Woodside has addressed and responded to Wanparta Aboriginal Corporation over 27 months, demonstrating a “reasonable” period of consultation.

Woodside asked Wanparta Aboriginal Corporation if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on Wanparta Aboriginal Corporation’s functions, interests or activities.

Malgana Aboriginal Corporation (Malgana)

Malgana is established under the *Native Title Act 1993* (Cth) by the Malgana people to represent the Malgana people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 19 July 2023, Woodside emailed Malgana NOPSEMA’s *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*. This email also reiterated Woodside’s request that Malgana advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.
- On 26 July 2023, Woodside emailed Malgana Woodside’s planned *Program of Ongoing Engagement with Traditional Custodians*.

Please see Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report) for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 11 October 2023, Woodside emailed Malgana advising of the proposed activity (Record of Consultation, reference 1.73) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside’s website) as well as a summary overview fact sheet. The email requested information on the interests that Malgana and its members may have within the EMBA, information on how Malgana would like to engage, and requested that Malgana provide information to other individuals as required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 306 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 20 October 2023, Woodside emailed an alternate contact at Malgana (the registered contact person), requesting feedback/further information about activities that Malgana had previously been notified about by Woodside and offered assistance to Malgana for consultation if required. Woodside re-attached earlier emails and requested the information be forwarded to any members and other individuals or groups who may have interests SI Report, references 33.1).
- Between 26 October 2023 – 2 November 2023 (SI Report 33.2 – 33.4), Woodside:
 - Telephoned Malgana on the number listed on the ORIC website, but the number was not connected. Woodside emailed Malgana following up on the proposed activities and requesting feedback and re-iterating an offer of assistance if required by Malgana about the activities.
 - Emailed Malgana following up on proposed activities and requesting feedback.
 - Emailed Malgana referencing previous emails sent by Woodside in October and November 2023 about this activity. Woodside informed Malgana that consultation prior to being submitted to NOPSEMA will close for this EP on 23 February 2024. Woodside also offered to meet with Malgana at their preferred place and time. Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments received post 23 February 2024.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Malgana for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on Malgana's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 of the Environment Regulations consultation.
- Provided Consultation Information Sheet and Consultation Summary Sheets developed by Indigenous staff to Malgana. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.

- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Confirmed the purpose of consultation and set out in detail what was being sought through consultation.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan".
- Advised that Malgana can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).
- Woodside commenced consultation with Malgana in October 2023.
- Woodside has addressed and responded to Malgana over 27 months, demonstrating a "reasonable" period of consultation.

Woodside asked Malgana if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on Malgana's functions, interests or activities.

Nanda Aboriginal Corporation (Nanda)

Nanda is established under the *Native Title Act 1993* (Cth) by the Nanda people to represent the Nanda people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values. Nanda's nominated representative is YMAC, and Woodside consults with Nanda via YMAC.

Historical engagement:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 308 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 21 July 2023, Woodside emailed Nanda NOPSEMA's *Consultation Guidelines*, *Consultation Brochure*, and *Draft Policy for Managing Gender-Restricted Information*. This email also reiterated Woodside's request that Nanda advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.
- On 25 July 2023, Woodside emailed Nanda (via YMAC) Woodside's planned *Program of Ongoing Engagement with Traditional Custodians*.

Please see *Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report)* for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 23 October 2023, Woodside emailed Nanda (via YMAC) advising of the proposed activity (Record of Consultation, reference 1.78) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website). The email requested information on the interests that Nanda and its members may have within the EMBA, information on how Nanda would like to engage, and requested that Nanda provide information to other individuals as required.
- On 13 November 2023, Woodside emailed YMAC noting that the previous email had included the Consultation Information Sheet, not the Summary Information Sheet. Woodside attached a copy of the Summary Information Sheet (SI Report, references 34.1).
- On 14 December 2023, Woodside emailed YMAC attaching the Program of Ongoing Consultation and advising that Woodside would like to progress negotiations on consultation frameworks with groups represented by YMAC (including Nanda) (SI Report, references 34.2). Woodside proposed the protocol would include (among other things):
 - The procedures Woodside would follow when a submission required consultation.
 - Initial and ongoing consultation in relation to activities.
 - Agreement as to how Woodside would provide Nanda with the information Nanda required to make free, prior and informed decisions about Woodside's Environmental Plans.
 - Agreement as to how Nanda would provide feedback and how that could best be represented in EPs.
 - On an agreed schedule of rates for Nanda's participation in consultation.
 - How to manage the outputs of the consultations.
- On 21 December 2023, Woodside emailed Nanda (via YMAC) providing a list of Woodside's upcoming activities as requested (SI Report, references 34.3).
- Between 28 February 2024 – 10 July 2024, Woodside and Nanda (via YMAC) exchanged emails regarding the draft consultation agreement including the aims of the agreement, meeting framework, proposed schedule of rates and other details relating to engagement with Woodside. This included a request to meeting with the Nanda Board of Directors, a discussion about upcoming EPs and review of legal cost estimates (SI Report, reference 34.4 – 34.9).
- On 12 May 2025, Woodside and Nanda (via YMAC) met in-person at the YMAC Geraldton office to consult on an unrelated EP (SI Report, reference 34.10). Relevant matters raised for this EP include:
 - (1) Nanda asked about whale migration pathways. (1) Woodside explained the mitigation methods employed where activities overlap migration pathways.
 - (2) Nanda noted that the Abrolhos Islands are culturally significant noting the presence of artefacts and historical significance. (2) Woodside acknowledged this and explained the opportunities with industry, universities, and government to support sea mapping. Woodside invited Nanda to discuss this further.

– (3) Nanda raised concerns around retaining cultural knowledge and the implications of sharing cultural values. (3) Woodside explained that it is the decision of Nanda whether cultural values are shared or not. – (4) Nanda shared further cultural values which include white snow crabs, North Island artefacts and food sources. (4) Woodside acknowledged these cultural values. • On 10 June 2025, Woodside emailed Nanda (via YMAC) following up from the consultation from 12 May 2025 (SI Report, reference 34.11). Woodside thanked Nanda for the meeting and acknowledged the cultural values shared which include: – (2, 4) White snow crabs of Shark Bay, North Island artefacts and the importance of food sources. – (2) Abrolhos Islands, noting the presence of artefacts and their historical significance.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Cultural value: whales • whale migration patterns.	(1) Woodside assessment: This value has been identified through Woodside's data collection processes (consultation). Woodside response: Woodside acknowledges Nanda's previously raised cultural values in other EPs. Woodside has made note of this information in this EP.	(1) Woodside updated Section 4.9 to record Wanparta's interests and potential cultural values and assessed potential impact on these, including controls, in Section 6 and 7.
(2) Cultural value: Abrolhos Islands and North Island • artefacts • historical significance	(2) Woodside assessment: This value has been identified through Woodside's data collection processes (consultation). Woodside response: Woodside acknowledges Nanda's cultural values and has included in this EP.	(2) Woodside updated Section 4.9 to record Wanparta's interests and potential cultural values and assessed potential impact on these, including controls, in Section 6 and 7.
(3) Nanda raised concerns around retaining cultural values.	(3) Woodside assessment: Woodside explained that it is the decision of Nanda whether cultural values are conveyed to Woodside or not. Woodside response: Woodside acknowledges Nanda's feedback.	(3) No action required.
(4) Cultural value: significance of: • White snow crabs	(4)	(4) Woodside updated Section 4.9 to record Wanparta's interests and potential cultural values and assessed

Food sources.	Woodside assessment: This value has been identified through Woodside's data collection processes (consultation). Woodside response: Woodside acknowledges Nanda's cultural values. Woodside has made note of this information and has included in this EP.	potential impact on these, including controls, in Section 6 and 7.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Nanda Aboriginal Corporation for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on Nanda's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 of the Environment Regulations consultation. - Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to Nanda. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Asked for the consultation and information sheets to be distributed to members and individuals as required. - Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan. - Advised that Nanda can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). Reasonable Period:		

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with Nanda in October 2023.
- Woodside has addressed and responded to Nanda over 26 months, demonstrating a “reasonable period” of consultation.

Woodside asked Nanda if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on Nanda functions, interests or activities.

Gogolanyngor Aboriginal Corporation (GAC)

GAC is established under the *Native Title Act 1993* (Cth) by the Jabirr Jabirr/Ngumbarl and Bindunbur people to represent the Jabirr Jabirr/Ngumbarl and Bindunbur people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 18 July 2023, Woodside emailed GAC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that GAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.
- On 26 July 2023, Woodside emailed GAC Woodside's planned *Program of Ongoing Engagement with Traditional Custodians*.

Summary of information provided and record of consultation for this EP:

- On 6 October 2023, Woodside emailed GAC advising of the proposed activity (Record of Consultation, reference 1.79) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that GAC and its members may have within the EMBA, information on how GAC would like to engage, and requested that GAC provide information to other individuals as required. The email requested information on the interests that GAC and its members may have within the EMBA. Woodside also suggested a lunch meeting in Broome the following week.
- Between 7 October – 4 April 2024, GAC and Woodside exchanged emails (SI Report, references 35.1 – 35.6), which included:
 - GAC confirming it would be available to meet in Broome the following week.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Woodside requesting if there were any questions regarding the EP, requested a suitable time to call and confirmed it would try to line up a meeting in Broome.
- GAC confirming it had briefly seen the consultation material and would follow up
- Woodside requesting to meet in person in Broome and telephoning GAC, with both parties agreeing to meet on 5 April 2024.
- (1) On 5 April 2024, Woodside met face to face with GAC, where no issues were raised concerning EPs and GAC invited Woodside to attend GAC Board meeting in late April (SI Report, references 35.6). (1) Woodside noted GAC's feedback to the EP.
- On 26 April 2024, Woodside spoke with GAC for estimated quote to speak at Board meeting on 26 April 2024 (SI Report, references 35.7).
- On 26 April 2024, Woodside attended the GAC Board meeting to discuss other Woodside activities and answer questions. There was no specific presentation regarding this activity or related questions raised (SI Report, references 35.8).
- On 3 April 2025, Woodside met with GAC to discuss unrelated EPs (SI Report, reference 35.9) and the following matters discussed relevant to this EP include:
 - (2) Possibility of activities causing vibrations in the water. (2) Woodside explained the seismic testing process (not being used for this activity) and what measures are in place to mitigate the impact on marine animals.
 - (3) GAC stated that funding for ranger programs was difficult to access. (2) Woodside provided information about ranger funding.
- (3) On 7 May 2025, Woodside visited GAC's office and provided an update on a ranger funding proposal (SI Report, reference 35.10).
- (3) On 20 May 2025, Woodside called GAC and provided information about ranger funding available from a Commonwealth government agency (SI Report, reference 35.11).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) GAC provided feedback stating that there were no issues, including no objections or claims, relating to the activity.	(1) Woodside assessment: Woodside acknowledges that GAC had no issues or concerns, including no objections or claims, regarding this EP. Woodside response: Woodside will reflect GAC's feedback in the EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	(1) No action required.
(2) GAC enquired about the possibility of activities causing vibrations in the water.	(2) Woodside assessment: There is no seismic testing in this EP. Support vessels may generate some noise.	(2)

	Woodside response: During a meeting on 3 April 2025 about another EP, Woodside explained what measures are in place to mitigate the impact of noise on marine animals.	While this EP does not include seismic activity, risk and mitigation measures for all relevant sound sources are in Section 6.7 of the EP.
(3) GAC stated that funding for ranger programs was difficult to access.	(3) Woodside assessment: Woodside sees the value of groups having ranger programs. Woodside response: Woodside is in the process of developing a ranger funding program. GAC's request will be evaluated in accordance with the program's criteria upon its implementation. Woodside has provided ranger information to GAC.	(3) No action required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with GAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: • Woodside sought direction on GAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. • Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to GAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. • Confirmed the purpose of consultation and set out in detail what is being sought through consultation. • Articulated planned and unplanned environmental risks and impacts, with proposed controls. • Asked for the consultation and information sheets to be distributed to members and individuals as required.		

- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan.
- Advised that GAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with GAC in October 2023.
- Woodside has addressed and responded to GAC over 27 months, demonstrating a "reasonable period" of consultation.

Woodside asked GAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on GAC functions, interests or activities.

Nimanburr Aboriginal Corporation (Nimanburr)

Nimanburr is established under the *Native Title Act 1993* (Cth) by the Nimanburr people to represent the Nimanburr people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 18 July 2023, Woodside emailed KLC on behalf of Nimanburr NOPSEMA's *Consultation Guidelines*, *Consultation Brochure*, and *Draft Policy for Managing Gender-Restricted Information*. This email also reiterated Woodside's request that Nimanburr advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Summary of information provided and record of consultation for this EP:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 315 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 10 October 2023, Woodside met with Nimanburr in person on Country and hand delivered the below documents and explained the proposed activity (SI Report, references 36.1). At this meeting Woodside also:
 - Provided a Consultation Information Sheet and explained the proposed activity.
 - Explained the EMBA and how it was developed.
 - Asked if there were any cultural values, they wished to share with Woodside, noting that information could be kept confidential.
 - Asked if there were any relevant persons that Woodside should consult with to which Nimanburr replied; no.
 - (1) Asked if Nimanburr had any further questions or concerns for this EP, to which Nimanburr replied; no. (1) Woodside noted the response.
 - Confirmed that Nimanburr would like to be consulted on a quarterly basis about Woodside activities with consultation to take place out on Nimanburr community.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Nimanburr advised it had no questions or concerns for the EP.	(1) Woodside assessment: Woodside accepts that Nimanburr has no feedback or concerns for this EP. Woodside response: Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	(1) Existing controls considered sufficient as described in Section 6 and 7.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls required.
Outcomes of consultation		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Nimanburr for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on Nimanburr's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation.
- Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to Nimanburr. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan.
- Advised that Nimanburr can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with Nimanburr in October 2023.
- Woodside has addressed and responded to Nimanburr over 27 months, demonstrating a "reasonable period" of consultation.

Woodside asked Nimanburr if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25(1) of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on Nimanburr functions, interests or activities.

Nyul Nyul PBC Aboriginal Corporation (NNAC)

NNAC is established under the *Native Title Act 1993* (Cth) by the Nyul Nyul people to represent the Nyul Nyul people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 20 July 2023, Woodside emailed NNAC NOPSEMA's *Consultation Guidelines*, *Consultation Brochure*, and *Draft Policy for Managing Gender-Restricted Information*. This email also reiterated Woodside's request that NNAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Summary of information provided and record of consultation for this EP:

- On 6 October 2023, Woodside emailed NNAC (via KLC) advising of the proposed activity (Record of Consultation, reference 1.96) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that NNAC and its members may have within the EMBA, information on how NNAC would like to engage, and requested that NNAC provide information to other individuals as required.
- On 26 October 2023, Woodside emailed NNAC (via KLC) requesting an opportunity to meet with NNAC and consult on EPs, informing that they were happy to pay reasonable sitting costs (SI Report, reference 37.1).
- On 26 October 2023, NNAC (via KLC) emailed Woodside thanking them for their email and informed Woodside that the NNAC Board would like to meet for a consultation workshop (SI Report, reference 37.2).
- On 1 November 2023, Woodside emailed NNAC (via KLC) and responded that they would be happy to coordinate and fund the consultation workshop and requested a 3–4-hour time slot (SI Report, reference 37.3).
- On 6 November 2023, NNAC (via KLC) emailed Woodside informing that they would seek confirmation from NNAC, but that Woodside should expect a meeting date suggesting February 2024 (SI Report, reference 37.4).
- On 22 February 2024, Woodside presented to the NNAC Board and its legal representative on Woodside activities, including this EP (SI Report, reference 37.5). Woodside presented slides which discussed NOPSEMA, EPs including addressing EPs currently under consultation. Woodside also presented on how Woodside consults relevant persons in the course of preparing EPs and provided information on relevant persons and EMBA's, and next steps in consultation processes. Woodside explained that the Pyrenees Operations EP is a 5-year revision plan, which has been operating since 2010. **(1)** The Chair expressed that there didn't seem to be an issue with this EP. The Board requested a further workshop with Woodside for corporation members. **(1)** Woodside confirmed it was available as needed for future requests.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) NNAC Board, via the Chair, provided feedback stating that there were no issues with the activity, and requested	(1) Woodside assessment: Woodside acknowledges that NNAC had no issues or concerns, including no objections or claims, regarding this EP.	(1) No action required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

a further workshop with Woodside for corporate members.	Woodside response: Woodside will reflect NNAC's feedback in the EP and will further engage with NNAC about a future workshop. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with NNAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on NNAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 of the Environment Regulations consultation. - Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to NNAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Asked for the consultation and information sheets to be distributed to members and individuals as required. - Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan."		

- Advised that NNAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with NNAC in October 2023.
- Woodside has addressed and responded to NNAC over 27 months, demonstrating a “reasonable period” of consultation.

Woodside asked NNAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on NNAC functions, interests or activities.

Karajarri Traditional Lands Association (Aboriginal Corporation) (KTLA)

KTLA is established under the *Native Title Act 1993* (Cth) by the Karajarri people to represent the Karajarri people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 24 July 2023, Woodside emailed KTLA NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that KTLA advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.
- On 26 July 2023, Woodside emailed KTLA Woodside's planned *Program of Ongoing Engagement with Traditional Custodians*.

Summary of information provided and record of consultation for this EP:

- On 2 October 2023, Woodside emailed KTLA advising of the proposed activity (Record of Consultation, reference 1.81) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 320 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

information on the interests that KTLA and its members may have within the EMBA, information on how KTLA would like to engage, and requested that KTLA provide information to other individuals as required.

- Between 13 October 2023 – 23 January 2024, Woodside emailed follow-up emails to KTLA seeking to confirm the best contact person at KTLA as Woodside had not received a response to its initial email (SI Report, reference 39.1 – 39.3). These emails included:
 - A copy of the initial email was attached enquiring if there is any further information needed.
 - An attached a copy of the Environment Plan Summary sheet
 - A requested for the opportunity to meet.
 - That consultation prior to being submitted to NOPSEMA would close for this EP on 23 February 2024.
 - An offered to meet with KTLA at their preferred place and time.
 - That consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with KTLA for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: • Woodside sought direction on KTLA's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. • Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to KTLA. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. • Confirmed the purpose of consultation and set out in detail what is being sought through consultation. • Articulated planned and unplanned environmental risks and impacts, with proposed controls. • Asked for the consultation and information sheets to be distributed to members and individuals as required.		

- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan.
- Advised that KTLA can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with KTLA in October 2023.
- Woodside has addressed and responded to KTLA over 27 months, demonstrating a "reasonable period" of consultation.

Woodside asked KTLA if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on KTLA functions, interests or activities.

Wanjina-Wunggurr (Native Title) Aboriginal Corporation (WWAC)

WWAC is established under the *Native Title Act 1993* (Cth) by the Wanjina and Wunggurr people to represent the Wanjina and Wunggurr people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 19 July 2023, Woodside emailed WWAC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information.

Please see Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report) for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 2 October 2023, Woodside emailed WWAC advising of the proposed activity (Record of Consultation, reference 1.80) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 322 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

information on the interests that WWAC and its members may have within the EMBA, information on how WWAC would like to engage, and requested that WWAC provide information to other individuals as required.

- On 13 October 2023, Woodside sent an email to WWAC (via KLC) enquiring about the best contact person at WWAC as Woodside had not received a response from its initial email. A copy of the initial email was attached (SI Report, reference 38.1).
- On 25 October 2023, Woodside emailed KLC enquiring if the KLC was the best point of contact (SI Report, reference 38.2).
- On 26 October 2023, KLC responded thanking Woodside for its email and confirmed Woodside had sent the information to the correct email address for WWAC. KLC noted that Corporation responses could be somewhat delayed due to various factors including opportunities for meetings and discussions, cultural or other corporation commitments and obligations, governance considerations, and more, and that it trusted someone would be in touch in due course (SI Report, reference 38.3).
- On 30 October 2023, KLC responded to Woodside's email from 25 October 2023 and provided a link to ORIC (SI Report, reference 38.4).
- On 2 November 2023, Woodside emailed KLC thanking it for its response and informing it that Woodside had exhausted all contacts listed on ORIC which is why they contacted KLC. Woodside also noted that it appreciated this time of the year was very busy and was understanding why making contact with PBCs may be difficult (SI Report, reference 38.5).
- On 2 November 2023, KLC emailed Woodside confirming it would pass on Woodside's email to WWAC (SI Report, reference 38.6).
- On 23 January 2024, Woodside emailed WWAC about this activity and informed WWAC that consultation prior to being submitted to NOPSEMA would close for this EP on 23 February 2024. Woodside offered to meet with WWAC at their preferred place and time. Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024 (SI Report, reference 38.7).
- On 13 March 2024, Woodside emailed WWAC requesting who to contact regarding EPs and Woodside activities (SI Report, reference 38.8).
- On 16 April 2024, Woodside emailed WWAC (via KLC) requesting that attached email correspondence regarding EPs be forwarded to WWAC, and that Woodside was available to meet face to face or telephone to discuss further (SI Report, reference 38.9).
- On 29 August 2024, Woodside emailed WWAC about an administrative matter regarding payments (SI Report, reference 38.10).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with WWAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on WWAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 of the Environment Regulations consultation.
- Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to WWAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan.
- Advised that WWAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with WWAC in October 2023.
- Woodside has addressed and responded to WWAC over 27 months, demonstrating a "reasonable period" of consultation.

Woodside asked WWAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.5.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on WWAC functions, interests or activities.

Mayala Inninalang Aboriginal Corporation (MIAC)

MIAC is established under the *Native Title Act 1993* (Cth) by the Mayala people to represent the Mayala people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

Kimberley Land Council (KLC) is the nominated Representative of MIAC.

- On 19 July 2023, Woodside emailed MIAC *NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*.
- On 8 August 2023, MIAC (via NOPSEMA) emailed Woodside enclosing a letter relating to among other things:
 - Culturally appropriate consultation processes,
 - Information that will support free, prior and informed consent.
 - **(1)** Financial support to bring together the right people to ensure appropriate consultations.

Please see Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report) for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 13 October 2023, Woodside emailed MIAC advising of the proposed activity (Record of Consultation, reference 1.82) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that MIAC and its members may have within the EMBA, information on how MIAC would like to engage, and requested that MIAC provide information to other individuals as required.
- On 16 October 2023, Woodside emailed MIAC introducing a new Woodside focal point and offering the opportunity for feedback by meeting in person with the Board and members (SI Report, reference 40.1).
- On 18 October 2023, Woodside emailed KLC asking if previous correspondence had been received and passed on to MIAC (SI Report, reference 40.2).
- On 26 October 2023, KLC emailed Woodside advising that their email had been forwarded to the relevant corporation (SI Report, reference 40.3).
- **(1)** On 27 October 2023, Woodside emailed MIAC following up on previous emails, informing MIAC that Woodside would cover meeting costs including flights and accommodation if they wished to meet in Perth. Alternatively, Woodside suggested an online Teams meeting if that was the preferred method of consultation. No response has been received (SI Report, reference 40.4).
- On 23 January 2024, Woodside emailed MIAC to inform it that consultation prior to being submitted to NOPSEMA would close for this EP on 23 February 2024. Woodside offered to meet with MIAC at its preferred place and time. Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024 (SI Report, reference 40.5).
- On 23 January 2024, KLC emailed Woodside advising that the contact person for MIAC had forwarded on Woodside's email to the PBC (SI Report, reference 40.6).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
---	--	-------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

(1) MIAC stated that it is not funded and required financial support for ongoing consultation.	(1) Woodside assessment: Woodside supports reasonable funding for costs associated with consultation. Woodside response: Woodside has responded to MIAC's financial requests in the 8 August 2023 letter and has offered financial support for ongoing consultation on 27 October 2023, which has not yet been taken up by MIAC. Sufficient information to allow informed assessment on this activity has been provided, including Consultation Information Sheets and a Summary Information Sheet developed by Indigenous staff members.	(1) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with MIAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on MIAC's preferred method of consultation. Woodside has offered to hold meetings at the location and time of MIAC 's choosing, with MIAC's nominated representatives (including face-to-face meetings with the Board). These meetings did not occur due to a lack of response to Woodside's requests. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25(1) of the Environment Regulations consultation. - Provided Consultation Information Sheets and Consultation Summary Sheets developed by Indigenous staff to MIAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Articulated planned and unplanned environmental risks and impacts, with proposed controls.		

- Confirmed the purpose of consultation and set out in detail what was being sought through consultation.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan".
- Advised that MIAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).
- Woodside commenced consultation with MIAC in October 2023.
- Woodside has addressed and responded to MIAC over 27 months demonstrating a "reasonable" period of consultation.

Woodside asked MIAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on MIAC functions, interests or activities.

Nyangumarta Warrarn Aboriginal Corporation (NWAC)

NWAC is established under the *Native Title Act 1993* (Cth) by the Nyangumarta people to represent the Nyangumarta people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 18 July 2023, Woodside emailed NWAC NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*.
- On 26 July 2023, Woodside emailed NWAC Woodside's planned *Program of Ongoing Engagement with Traditional Custodians*.

Please see Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report) for further details of this correspondence.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 327 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Summary of information provided and record of consultation for this EP:

- On 2 October 2023, Woodside emailed NWAC advising of the proposed activity (Record of Consultation, reference 1.83) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that NWAC and its members may have within the EMBA, information on how NWAC would like to engage, and requested that NWAC provide information to other individuals as required. Woodside requested information be provided by 1 November 2023.
- On 11 October 2023, Woodside emailed seeking an alternative NWAC contact to arrange a meeting (SI Report, reference 41.1).
- On 18 October 2023, Woodside emailed an alternative YMAC contact, after attempting to contact NWAC's Operations Manager by telephone, to seek an opportunity to speak to the contact person for NWAC (SI Report, reference 41.2). NWAC sent a mobile text message asking Woodside to call back on the 19 October 2023.
- On 19 October 2023, Woodside emailed NWAC, after contacting NWAC by telephone, with a request for a cost estimation and offered to meet at a time and place that was suitable to NWAC (SI Report, reference 41.3). No response was received.
- On 24 November 2023, Woodside emailed NWAC (via YMAC) introducing itself and submitted a set of questions requesting NWAC's response in an effort to enhance their relationship. Woodside queried best contact details regarding consultation matters (SI Report, reference 41.4).
- **(1)** On 24 November 2023, NWAC (via YMAC) emailed Woodside its communications protocol. **(2)** NWAC noted additional expenses would be involved and committed to preparing a budget for Woodside's consideration (SI Report, reference 41.5).
- On 27 November 2023, Woodside emailed NWAC (via YMAC) (SI Report, reference 41.6). Woodside:
 - **(1)** Stated it would align to the approach set out in the communications protocol.
 - **(2)** Asked for a cost estimation/budget to assign funds for meetings.
- On 11 December 2023, Woodside met with NWAC (SI Report, reference 41.7), Woodside:
 - Described the EP framework, referring to the *Offshore Petroleum and Greenhouse Gas Storage Act (Environment) Regulations*, NOPSEMA's role as regulator and general contents of EPs.
 - Displayed a map of activities open for feedback to be discussed in the meeting and provided a list of other upcoming activities open for consultation.
 - Woodside provided an overview of this activity, explaining that these were floating vessels and not permanent rigs.
 - Woodside explained the difference between crude, gas and condensate.
 - Described the types of vessels involved.
 - Described planned and unplanned environmental risks and impacts in accordance with tables provided in the Information Sheets for the activities, emphasising that unplanned risks are not expected to occur and are unlikely.
 - Displayed and spoke to the EMBA and how they are developed.
 - Stated that Woodside wanted to understand how the functions, activities, or interests of NWAC and the people it represents may be impacted by any of those activities.
 - Specifically asked the following:

- How could these activities impact your cultural values, interests, and activities - does protecting the environment do enough to protect your cultural values?
 - What are your concerns about the proposed activities and what do you think we should do about them?
 - Is there anything you would like included in the EPs before submission?
 - Is there anyone else Woodside should consult with about the activities?
- (3) NWAC said it believed future meetings were required.
- Woodside advised it would continue to take feedback from NWAC for the life of the EP.
- On 11 December 2023, Woodside emailed NWAC (via YMAC) thanking it for the meeting and sharing contact details (SI Report, reference 41.8).
- On 11 December 2023, Woodside emailed NWAC (via YMAC) a copy of the presentation given at the meeting and followed up on key topics discussed in the meeting and offered to provide further information regarding the activity (SI Report, reference 41.9).
- (1) On 14 December 2023, Woodside emailed YMAC attaching the Program of Ongoing Consultation and advised that Woodside wanted to progress negotiations on consultation frameworks with groups represented by YMAC (including NWAC) (SI Report, reference 41.10). Woodside proposed the protocol would include (among other things):
 - The procedures Woodside will follow when a submission requires consultation.
 - Initial and ongoing consultation in relation to activities.
 - Agreement as to how Woodside will provide NWAC with the information NWAC requires to make free, prior and informed decisions about Woodside's EPs.
 - Agreement as to how NWAC will provide feedback and how that can best be represented in EPs.
 - (2) An agreed schedule of rates for NWAC's participation in consultation.
 - How the outputs of the consultations will be managed.
- (3) On 13 February 2024, Woodside emailed NWAC (via YMAC) seeking opportunities for EP consultations for upcoming activities in first half of 2024 (SI Report, reference 41.11).
- (1) On 28 February 2024, Woodside emailed NWAC (via YMAC) draft consultation agreements for consideration that include aims of consultation, proposed consultation agreement details and a consultation meeting framework. (2) Woodside invites YMAC to propose a schedule of rates and other details relating to its engagements (SI Report, reference 41.12).
- (1) On 27 June 2024, Woodside emailed YMAC to follow up on the draft consultation agreement sent to NWAC (SI Report, reference 41.13).
- (1) On 10 July 2024, YMAC confirmed it had received the draft consultation agreement which related to NWAC (SI Report, reference 41.14).
- On 3 October 2024, Woodside emailed NWAC Woodside emailed MIAC about an administrative matter regarding payments (SI Report, reference 41.15)
- Between 15 and 21 October 2024, NWAC and Woodside exchanged emails about meeting on 24 October 2024 (SI Report, references 41.16 – 41.24).
- On 24 October 2024, Woodside and NWAC met to discuss an unrelated EP (SI Report, reference 41.25). Matters discussed relevant to this EP included:
 - Woodside's consultation process.

- Locations of Woodside activities including those associated with this EP.
- NWAC can provide feedback for the life of an EP.
- Woodside explained the role of state and federal regulators.
- (1) NWAC expressed an interest in negotiating the consultation agreement but understood these negotiations run unilaterally to EP consultation.
- (4) NWAC confirmed Traditional Owners would want their own independent monitoring processes. (4) Woodside confirmed there are social investment and cultural mapping opportunities that can be utilised to support Traditional Owners independent monitoring and survey projects.
- (5) NWAC Traditional Owners explained that their priority is to protect Eighty Mile Beach due to its cultural and ecological value to the Nyangumarta Custodians. (5) Woodside explained the impacts and controls to mitigate risk for the activity and assured NWAC that Eighty Mile Beach will be acknowledged as a cultural value.
- (6) NWAC discussed the impacts of migrating birds, whales, turtles and vegetation. (6) Woodside acknowledged and reiterated the importance of ongoing consultation to ensure Traditional Owners are up to date with Woodsides activities.
- Between 24 October and 2 December 2024, Woodside and NWAC exchanged emails about an administrative matter relating to meeting payments (SI Report, references 41.26 – 41.31).
- (1) On 7 May 2025, NWAC (via YMAC) emailed Woodside a response to Woodside's email about an unrelated EP (SI Report, reference 41.32). NWAC stated that it wanted to develop a consultation protocol.
- (1, 1) Between 9 May 2025 and 22 June 2025, Woodside and NWAC (via YMAC) exchanged emails about an unrelated EP (SI Report, reference 41.33 – 41.35). Among other issues discussed, Woodside stated that a consultation protocol is not a prerequisite for consultation and is not required for Woodside to provide reasonable support to NWAC to enable it to participate in consultation. Woodside advised it was not inclined to enter into new negotiations for consultation protocols at this time.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) NWAC has provided Woodside with a Communications Protocol.	(1) Woodside assessment: Woodside has adapted its consultation methods to align with the consultation protocol provided by NWAC. Woodside response: As well as complying with NWAC's communications protocol, Woodside has provided NWAC via YMAC with a draft consultation agreement for consideration.	(1) Woodside's program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on EPs is currently being implemented. The draft agreement with NWAC (among other things) will set out the process for ongoing engagement. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i> , (Appendix G). Woodside will continue to consult following acceptance of the EP. No additional measures or controls are required.
(2)	(2)	(2)

NWAC has sought funding for expenses relating to communications/consultation.	Woodside assessment: The draft consultation agreement would be an effective mechanism to address resourcing for ongoing consultation. Woodside response: Woodside supports reasonable requests for resourcing. Woodside has invited NWAC via YMAC to propose a schedule of rates and other details as part of the draft consultation agreement.	Not required.
(3) NWAC has requested further meetings with Woodside.	(3) Woodside assessment: Woodside engages in ongoing consultation throughout the life of an EP. Consultation can take the form of meetings. Woodside Response: Woodside has provided NWAC with a draft consultation agreement which includes proposed consultation agreement details and a consultation meeting framework.	(3) Not required.
(4) NWAC confirmed Traditional Owners would want their own independent monitoring processes.	(4) Woodside assessment: Woodside acknowledges that NWAC requests independent monitoring processes. Woodside response: Woodside confirmed there are social investment and cultural mapping opportunities that can be utilised to support Traditional Owners independently monitor and survey projects.	(4) Woodside's environmental controls are described in Section 6: Environmental impact and risk assessment, performance outcomes, standards and measurements criteria.
(5) NWAC Traditional Owners explained that their priority is to protect Eighty Mile Beach due to its cultural and ecological value to the Nyangumarta Custodians.	(5) Woodside assessment: Woodside acknowledges NWAC's connection, and priority to protect, Eighty Mile Beach, and the cultural value to the Nyangumarta Custodians. Woodside response: Woodside explained the impacts and controls to mitigate risk for the activity and assured NWAC that Eighty Mile Beach will be acknowledged as a cultural value in the EP.	(5) Eighty Mile Beach is identified as a cultural feature and heritage value in Section 4.9.1: Cultural values and heritage, under Sea Country values in the EP.
(6)	(6)	(6)

NWAC discussed the impacts to migrating birds, whales, turtles and vegetation.	Woodside assessment: Woodside has developed response plans to mitigate or avoid impacts on birds and marine mammals in the highly unlikely event of a hydrocarbon response. Woodside response: Woodside advised the impact on animals depended on the timing, duration and extent of a spill. Response options included tracking, protective barriers, shoreline clean-up techniques, prevention of contact with wildlife and rehabilitation of wildlife where contact occurs, and long-term monitoring of species and sites after a spill.	The potential environmental impacts of planned and unplanned activities are assessed in Section 6: Environmental impact and risk assessment, performance outcomes, standards and measurements criteria.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with NWAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on NWAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. - Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to NWAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Asked for the consultation and information sheets to be distributed to members and individuals as required.		

- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan.
- Advised that NWAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with NWAC in October 2023.
- Woodside has addressed and responded to NWAC over 27 months, demonstrating a "reasonable period" of consultation.

Woodside asked NWAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on NWAC functions, interests or activities.

Nyangumarta Karajarri Aboriginal Corporation (NKAC)

NKAC is established under the *Native Title Act 1993* (Cth) by the Nyangumarta and Karajarri people to represent the Nyangumarta and Karajarri people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 24 July 2023, Woodside emailed NKAC/KLC NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*.
- On 26 July 2023, Woodside emailed NKAC/KLC Woodside's planned *Program of Ongoing Engagement with Traditional Custodians*.

Please see Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report) for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 333 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 13 October 2023, Woodside emailed NKAC (via KLC) advising of the proposed activity (Record of Consultation, reference 1.84) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website). The email requested information on the interests that KLC and its members may have within the EMBA, information on how KLC would like to engage, and requested that KLC provide information to other individuals as required.
- On 18 October 2023, Woodside emailed NKAC (via KLC) confirming if the email sent from Woodside on 13 October 2023, had been received and passed along to Nyangumarta Karajarri Aboriginal Corporation (SI Report, reference 42.1).
- On 26 October 2023, KLC (representing NKAC) emailed Woodside to confirm receipt of emails and stated it would pass on relevant information. KLC did note that turnaround times could be timely and delayed due to several factors (SI Report, reference 42.2).
- On 27 October 2023, Woodside emailed KLC asking for advice on forwarding a meeting request on to NKAC (SI Report, reference 42.3).
- On 23 January 2024, Woodside emailed NKAC (via KLC) advising that consultation prior to the EP being submitted to NOPSEMA would close on 23 February 2024. Woodside offered to meet with NKAC at its preferred place and time. Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024 (SI Report, reference 42.4).
- On 23 January 2024, KLC (representing NKAC) emailed Woodside to confirm receipt of emails and stated it would pass on relevant information. KLC noted that turnaround times could be timely and delayed due to several factors (SI Report, reference 42.5).
- On 10 April Woodside and NKAC met in Broome (SI Report, reference 42.6). While the topic of the meeting was an unrelated EP, Woodside explained its activities in WA and expressed an interest in building a relationship with NKAC.
- On 3 October 2024, Woodside emailed NKAC about an administrative matter relating to consultation expenses and payments (SI Report, reference 42.7).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with NKAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: Woodside sought direction on NKAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation.		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to NKAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan.
- Advised that NKAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with NKAC in October 2023.
- Woodside has addressed and responded to NKAC over 27 months, demonstrating a "reasonable period" of consultation.

Woodside asked NKAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25(1) of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on NKAC functions, interests or activities.

Yawuru Native Title Holders Aboriginal Corporation (Yawuru)

Yawuru is established under the *Native Title Act 1993* (Cth) by the Yawuru people to represent the Yawuru people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 335 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 18 July 2023, Woodside emailed Yawuru *NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*. This email also reiterated Woodside's request that Yawuru advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Please see *Ngujima-Yin Floating Production Storage and Offloading Facility Operations EP (Appendix F and SI Report)* for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 19 October 2023, Woodside emailed Yawuru advising of the proposed activity (Record of Consultation, reference 1.85) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that Yawuru and its members may have within the EMBA, information on how Yawuru would like to engage, and requested that Yawuru provide information to other individuals as required.
- On 24 January 2024, Woodside sent a follow-up email to Yawuru informing them that consultation prior to being submitted to NOPSEMA will close for this EP on 23 February 2024. Woodside offered to meet with Yawuru at their preferred place and time. Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024 (SI Report, reference 43.1).
- On 8 April 2025, Traditional Owner members from Yawuru attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.13).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Yawuru for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on Yawuru's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation.
- Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to Yawuru. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 336 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan.
- Advised that Yawuru can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with Yawuru in October 2023.
- Woodside has addressed and responded to Yawuru over 27 months, demonstrating a "reasonable period" of consultation.

Woodside asked Yawuru if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on Yawuru functions, interests or activities.

Dambimangari Aboriginal Corporation (DAC)

DAC is established under the *Native Title Act 1993* (Cth) by the Dambimangari people to represent the Dambimangari people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 18 July 2023, Woodside emailed DAC NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*. This email also reiterated Woodside's request that DAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Please see Ngujima-Yin Floating Production Storage and Offloading Facility Operations EP (Appendix F and SI Report) for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 337 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 2 October 2023, Woodside emailed DAC advising of the proposed activity (Record of Consultation, reference 1.76) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that DAC and its members may have within the EMBA, information on how DAC would like to engage, and requested that DAC provide information to other individuals as required.
- Between 16 – 18 October 2023, following a telephone call and voicemail message to the CEO on 13 October 2023, Woodside emailed DAC providing information about Woodside's consultation along the coastline of Western Australia, Northern Territory and Victoria and enquiring about the opportunity to connect with the Board in the near future. This included an email to DAC's deputy CEO introducing the Woodside focal point and asking to listen to any feedback on Woodside activities (SI Report, reference 44.1 – 44.2).
- Between 25 October and 2 November 2023, Woodside and KLC exchanged emails seeking the most recent contact details for DAC, KLC advising Woodside that the ORIC website would have the relevant contact details, notifying KLC that Woodside had previously tried all available contacts listed on ORIC site and interest to meet members including flexibility with meeting dates and logistics, and KLC stating it would pass Woodside's email onto their contacts at the relevant organisations (SI Report, reference 44.3 – 44.6).
- On 8 November 2023, Woodside emailed the DAC CEO requesting the opportunity for a 'meet & greet', highlighting the purpose for the meeting was to explain the current EPs as they related to the Dambimangari Traditional Owners. Woodside attached an offer to meet document alongside the relevant EP to the email (SI Report, reference 44.7).
- On 8 November 2023, Woodside visited the DAC offices in Derby in person to meet and greet and seek feedback on EPs. The activity was discussed, and the purpose of consultation was communicated to DAC. Woodside gave an overview of the EMBA and provided the link to NOPSEMA regarding First Nations engagement. Woodside asked if DAC had any questions or would like to provide feedback and if there was anyone else, they should speak to or to speak with to make introductions. Woodside was advised that the DAC CEO was the best person to organise further contact. DAC provided a contact for a ranger project and gave the CEO contact details (SI Report, reference 44.8).
- On 11 November 2023, Woodside wrote to DAC requesting a meeting with the CEO and Board, at a time, date and location of DAC's choosing. Woodside offered to pay reasonable costs for the meeting. No response has been received (SI Report, reference 44.9).
- On 23 January 2024, Woodside emailed DAC following up on previous attempts to consult and meet with DAC about this activity. Woodside informed DAC that consultation prior to being submitted to NOPSEMA will close for this EP on 23 February 2024. Woodside offered to meet with DAC at their preferred place and time. Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024 (SI Report, reference 44.10).
- **(1)** On 12 March 2024, DAC emailed Woodside to confirm Woodside meeting with DAC Board between 10 – 11 April 2024. DAC Board also requested Woodside provide full disclosure of any environmental issues or incidents, including from current operations in the region, and how Woodside manages these issues and incidents. DAC will confirm agenda and meeting details in due course (SI Report, reference 44.11).
- On 12 March 2024, Woodside emailed DAC acknowledging receipt of email regarding DAC Board meeting and to confirm if the advisor is the contact (SI Report, reference 44.12).
- On 12 March 2024, DAC emailed Woodside to confirm that the advisor is the contact for meeting logistics and other matters need to channelled via DAC and its Board (SI Report, reference 44.13).
- On 26 March 2024, DAC emailed Woodside to confirm Woodside's attendance at DAC Board meeting on 10 April 2024 in Derby (SI Report, reference 44.14).

- On 26 March 2024, Woodside emailed DAC with an offer to provide reasonable financial support for the meeting and would require a cost estimation before the meeting. Woodside stated it would email separately new EPs and activities since last correspondence with DAC, and would also provide an information pack to be presented at the meeting (SI Report, reference 44.15).
- Between 4 – 9 April 2024, DAC and Woodside exchanged emails regarding Woodside's attendance at the DAC Board meeting including cost estimations and invoices, meeting confirmation and attendees, and online meeting links (SI Report, reference 44.16 – 44.19).
- On 10 April 2024, Woodside emailed DAC the presentations for the meeting about Browse Stakeholder Consultation, scheduled for 10 April 2024. The presentation included information about other Woodside activities and Environmental Plan consultation (SI Report, reference 44.20).
- (1)** On 10 April 2024, Woodside met with DAC to discuss other Woodside activities and EP consultation. Woodside discussed the Browse Project, history of the project at James Price Point, Woodside's First Nations Engagement Team, Woodside Energy overview and EP consultation relating to other activities, not related to this EP. Woodside reaffirmed that it would remain in contact regarding any follow conversations in regard to this meeting and future EP discussions (SI Report, reference 44.21).
- On 12 April 2024, Woodside emailed DAC thanking for the opportunity to meet the Board the previous day. Woodside followed up with information about two separate activities and related EPs, as well as reinforcing that Woodside is legally required to provide information about projects relevant to DAC, and appreciate and respect the busy schedules of members. Woodside reaffirmed its commitment to working with DAC and providing support as required (SI Report, reference 44.22).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) DAC Board requested Woodside provide full disclosure of any environmental issues or incidents, including from current operations in the region, and how Woodside manages these issues and incidents.	(1) Woodside assessment: Woodside acknowledges the importance of providing information to Traditional Custodians in a timely manner. Woodside response: Woodside met with DAC Board to provide information about EP consultations relating to other activities in the region and reaffirmed its commitment to continue engagement with DAC.	(1) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside	Based on the engagement to date, no additional measures or controls required.

	will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with DAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient information: • Woodside sought direction on DAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. • Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to DAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. • Confirmed the purpose of consultation and set out in detail what is being sought through consultation. • Articulated planned and unplanned environmental risks and impacts, with proposed controls. • Asked for the consultation and information sheets to be distributed to members and individuals as required. • Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan. • Advised that DAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). Reasonable Period: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Woodside commenced consultation with DAC in October 2023. • Woodside has addressed and responded to DAC over 27 months, demonstrating a "reasonable period" of consultation. Woodside asked DAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified. Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP). Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on DAC functions, interests or activities.		

Bardi and Jawi Niimidiman Aboriginal Corporation (BJNAC)

BJNAC is established under the *Native Title Act 1993* (Cth) by the Bardi and Jawi People to represent the Bardi and Jawi people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- **(1)** On 14 April 2023, BJNAC emailed Woodside, advising that that BJNAC would be unable to engage with Woodside on a goodwill basis via attending and coordinating meetings, or with general correspondence and requested that Woodside factor in the values that are outlined in BJNAC's Joint Management Plan for the Park, into Woodside's EP plan for projects. BJNAC noted that there may be cases where BJNAC will simply want to make Woodside aware of the Bardi and Jawi Marine Park and will be requesting that Woodside factor in the values that are outlined in the Joint Management Plan for the Park, into Woodside's EP plan for projects. In other cases, BJNAC may want to respond with more detailed information if a project is likely to have a greater effect on Bardi and Jawi Sea Country. BJNAC stated that it will provide Woodside with a resourcing protocol within 28 days and objected to Woodside progressing matters with the PBC or making a submission to NOPSEMA (SI Report, reference 45.1).
- **(2)** On 5 June 2023, BJNAC emailed Woodside a draft resourcing protocol for consideration and stated it would await comments from Woodside (SI Report, reference 45.2).
- **(2)** On 18 July 2023, Woodside emailed BJNAC thanking them for the draft protocol and restated Woodside's objectives for consultation. In the email, Woodside included a summary sheet for another activity unrelated to this EP along with NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that BJNAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult (SI Report, reference 45.3).
- **(3)** On 8 August 2023, BJNAC (via NOPSEMA) emailed Woodside (SI Report, reference 45.4) enclosing a letter relating to among other things:
 - Culturally appropriate consultation processes,
 - Information that will support free, prior and informed consent.
 - **(2)** Financial support to bring together the right people to ensure appropriate consultations.
- **(3)** On 13 October 2023, Woodside met face-to-face with BJNAC in a meeting on implementing an engagement framework. A framework draft was reviewed, and edits proposed. It was agreed that both parties were on the same page for ongoing consultation. BJNAC commended Woodside for how they engage and consult with First Nations peoples. BJNAC's preferred methods of consultation, including the use of animated videos, were discussed with suggestions agreed to by both parties (SI Report, reference 45.5).

Summary of information provided and record of consultation for this EP:

- On 23 November 2023, Woodside emailed BJNAC advising of the proposed activity (Record of Consultation, reference 1.98) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that BJNAC and its members may have within the EMBA, information on how BJNAC would like to engage, and requested that BJNAC provide information to other individuals as required. Woodside followed up with a telephone call, there was no answer.

- (2, 3) On 14 December 2023, Woodside emailed BJNAC Woodside's planned *Program of Ongoing Engagement with Traditional Custodians* (SI Report, reference 45.6). Woodside noted that Woodside's contracting team had not settled the Agreement Protocol yet but noted the following inclusions:
 - Agreement between Woodside and BJNAC and as representatives of the Bardi Jawi people (together "BJNAC") to consult in a meaningful and genuine manner.
 - The basic procedure Woodside will follow when a submission requires consultation – notification and invitation to meet.
 - Initial and ongoing consultation in relation to activities.
 - Agreement as to how Woodside will provide BJNAC the information BJNAC requires to make a free, prior and informed decisions.
 - Agreement as to how BJNAC will provide feedback and how we can best represent BJNAC's feedback in our submissions.
 - An agreed schedule of rates.
 - How the outputs of the consultation are managed.
- On 15 December 2023, emails were exchanged between Woodside and BJNAC seeking a date to meet (SI Report, reference 45.7).
- On 18 January 2024, emails were exchanged between Woodside and BJNAC seeking a time to meet. The 25 January 2024 was discussed and agreed between BJNAC and Woodside (SI Report, reference 45.8 – 45.11).
- (4) On 25 January 2024, BJNAC emailed and sent a letter to Woodside (SI Report, reference 45.12) making the following points (among others):
 - Will seek technical advice about the activities proposed in the EP.
 - Will seek advice on potential environmental implications of the activity in the EP.
 - Advice on potential impact on cultural heritage and rights under law and custom.
 - Consideration of reports which contain the above advice.
 - (2) Funding requirement to allow for the above undertakings by relevant experts.
- On 2 February 2023, Woodside emailed BJNAC confirming a meeting for the week of 5 February 2024 and offering to pay costs (SI Report, reference 45.13).
- On 2 February 2024, BJNAC emailed Woodside confirming availability and responding that they did not require costs to be paid to meet at this time (SI Report, reference 45.14).
- (5) On 5 February 2024, Woodside met with BJNAC's, Executive Officer who confirmed that BJNAC had no issues with this activity and no comments to make (SI Report, reference 45.15).
- (5) On 8 February 2024, BJNAC emailed Woodside stating they do not see themselves being affected. BJNAC requested that Woodside consult with them in the event changes occur to the oil spill scenario (SI Report, reference 45.16).
- On 9 February 2024, Woodside emailed BJNAC thanking for the response (SI Report, reference 45.17).
- (3) On 28 February 2024, Woodside emailed BJNAC with a letter (SI Report, reference 45.18) setting out the draft terms of a consultation agreement between BJNAC and Woodside, the agreement (among other things) included the following topics:
 - Sufficient Information

– Reasonable Period. – Provision of Information – Objection or claims – Publication – (2) Arrangements regarding reasonable costs and expenses – How the agreement may be terminated • On 3 April 2024, Woodside met BJNAC for lunch during which BJNAC invited Woodside to its board meeting on 2 May 2024 (SI Report, reference 45.19). • (3) On 4 April 2024, Woodside emailed BJNAC enquiring if BJNAC had reviewed the draft consultation agreement sent on 28 February 2024 (SI Report, reference 45.20). • (3) On 15 April 2024, BJNAC emailed Woodside advising it would respond to the draft consultation agreement by the end of the week (SI Report, reference 45.21) • (3) On 23 April 2024, Woodside phoned BJNAC to confirm an earlier arranged meeting with the BJNAC Board on 2 May. BJNAC informed Woodside that it would be unable to meet until the consultation agreement was in place (SI Report, reference 45.22). • (2, 3) On 3 May 2024, BJNAC emailed Woodside a draft protocol which included a Schedule of Rates and Consultation Schedule (SI Report, reference 45.23). • On 3 May 2024, BJNAC emailed Woodside in relation to an invoice for a social investment funding proposal not related to this EP (SI Report, reference 45.24).		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) BJNAC previously advised it has values that are outlined in the Joint Management Plan for the Bardi and Jawi Marine Park, which it may require to be noted in particular EPs.	(1) Woodside assessment: Woodside accepts BJNAC's feedback regarding the values outlined in the Joint Management Plan for the Bardi Jawi Gaarra Marine Park. Woodside response: Woodside has updated the EP to reflect BJNAC's interests in the Bardi Jawi Gaarra Marine Park, whilst noting that the Marine Park falls outside the EMBA for this EP.	(1) Woodside has updated Table 4.9.5 of the EP to reflect BJNAC's feedback and note that the Bardi Jawi Gaarra Marine Park falls outside the EMBA for this EP.
(2) BJNAC has requested that Woodside enter into a resourcing protocol. BJNAC has set out conditions it requires for ongoing engagement.	(2) Woodside assessment: Woodside supports reasonable requests for funding to aid consultation activities. Woodside response: Woodside is committed to resourcing BJNAC through an agreed resourcing protocol as part of ongoing consultation as required	(2) As identified in Sections 6 and 7 of this EP, Woodside will continue to consult following acceptance of the EP, as required by the implementation strategy as set out in regulation 22(15) of the Environment Regulations and continue to progress with establishing a framework

	by the implementation strategy as set out regulation 22(15) of the Environment Regulations.	agreement as part of Woodside's <i>Program of Ongoing Engagement with Traditional Custodians</i> (Appendix G).
(3) BJNAC supports implementing an engagement framework. The framework would include preferred methods of consultation	(3) Woodside assessment: Woodside is committed to culturally appropriate consultation processes. Woodside response: Woodside provided BJNAC with a draft consultation agreement in February 2024. The agreement would be used to frame ongoing consultation. Sufficient information to allow informed assessment has already been provided by other means, including Consultation Information Sheets and a Summary Information Sheet developed by Indigenous staff members.	(3) Woodside is implementing a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i> , (Appendix G).
(4) BJNAC advised it would seek technical advice on the proposed activity and advice on potential environmental and cultural heritage implications. BJNAC seeks funding from Woodside for this.	(4) Woodside assessment: Woodside acknowledges BJNAC plans to seek technical advice on the proposed activity and advice on potential environmental and cultural heritage implications. Woodside response: The draft consultation agreement includes arrangements regarding reasonable costs and expenses.	(4) Woodside is implementing a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i> , (Appendix G).
(5) BJNAC confirmed it had no issues or comments to make about this activity.	(5) Woodside assessment: Woodside accepts BJNAC has no issues or comments to make about this activity. Woodside response: Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	(5) As identified in Sections 6 and 7 of this EP, Woodside will continue to consult following acceptance of the EP, as required by the implementation strategy as set out in regulation 22(15) of the Environment Regulations and continue to progress with establishing a framework agreement as part of Woodside's <i>Program of Ongoing Engagement with Traditional Custodians</i> (Appendix G).
Woodside addressed objections and claims as noted above.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the	Based on the engagement to date, no additional controls or measures required.

	activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with BJNAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient information: - Woodside sought direction on BJNAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. - Provided Consultation Information Sheet and Consultation Summary Sheets developed by Indigenous staff to BJNAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Asked for the consultation and information sheets to be distributed to members and individuals as required. - Woodside has provided NOPSEMA's brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan". - Advised that BJNAC can request that particular information provided in the consultation not be published to align with regulation 25(4) of the Environment Regulations. Reasonable Period: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023). - Woodside commenced consultation with BJNAC in November 2023.		

- Woodside has addressed and responded to BJNAC over 25 months, demonstrating a “reasonable” period of consultation.

Woodside asked BJNAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on BJNAC'S functions, interests or activities.

Bundi Yamatji Aboriginal Corporation (BYAC)

BYAC is established under the *Native Title Act 1993* (Cth) by the Bundi Yamatji people to represent the Bundi Yamatji people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Summary of information provided and record of consultation for this EP:

- On 11 October 2023, Woodside emailed BYAC advising of the proposed activity (Record of Consultation, reference 1.87) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that BYAC and its members may have within the EMBA, information on how BYAC would like to engage, and requested that BYAC provide information to other individuals as required.
- On 11 October 2023, Woodside emailed BYAC a follow-up email attaching the Summary Information Sheet (SI Report, reference 48.1).
- (1) On 1 November 2023, BYAC emailed Woodside thanking it for the information and advising there was no need for BYAC to provide a response in relation to connections to the area, noting that if any particular area was impacted by oil or spills then there would be a need to consult with BYAC (SI Report, reference 48.2).
(1) Woodside notes this feedback and will include in EP.
- On 2 February 2024, Woodside emailed BYAC links to NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also informed BYAC that consultation prior to being submitted to NOPSEMA will close for this EP on 23 February 2024. Woodside asked if BYAC would like to provide further feedback and gave contact information for direct feedback. Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024 (SI Report, reference, 48.3).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) BYAC advised it had no need to respond regarding this activity. BYAC advised that if there were spills or oil impacting BYAC's area of interest then BYAC should be consulted.	(1) Woodside assessment: Woodside accepts BYAC's feedback. Woodside response: In the highly unlikely event a hydrocarbon release was to impact BYAC's area of interest, Woodside will contact BYAC.	(1) The Oil Spill First Strike Plan (Appendix I) includes a requirement to contact Traditional Owners who may be affected by a spill.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with BYAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: • Consultation Information Sheet publicly available on the Woodside website since September 2023. • Provided Consultation Information Sheet and Summary Information Sheet to BYAC on 11 October 2023 based on their functions, interests or activities. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity in a digestible, plain English format. • Woodside sought direction on BYAC's preferred method of consultation. • Articulated planned and unplanned environmental risks and impacts, with proposed controls. • Confirmed the purpose of consultation and set out in detail what is being sought through consultation. • Asked for the consultation and information sheets to be distributed to members and individuals. • Woodside has provided NOPSEMA's brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan". • Advised that BYAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). Reasonable Period: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River		

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Woodside commenced consultation with BYAC in October 2023.
- Woodside has addressed and responded to BYAC over 27 months, demonstrating a “reasonable period” of consultation.

Woodside asked BYAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on BYAC functions, interests or activities.

Gnaala Karla Booja Aboriginal Corporation (GKB)

Summary of information provided and record of consultation for this EP:

- On 11 October 2023, Woodside emailed GKB advising of the proposed activity (Record of Consultation, reference 1.88) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that GKB and its members may have within the EMBA, information on how GKB would like to engage, and requested that GKB provide information to other individuals as required.
- On 27 October 2023, Woodside emailed GKB following up on the 11 October 2023 email, offering to meet and asking whether any further information was required and whether there were any other individuals or groups that Woodside should consult with. No response has been received (SI Report, reference 50.1).
- On 7 December 2023, Woodside received a letter from GKB (SI Report, reference 50.2) stating:
 - (1) Woodside should inform GKB as soon as possible once an unplanned event occurs.
 - (2) Woodside to update GKB on the progress of the Pyrenees operations.
 - (2) GKB will inform Woodside if there are matters relating to the operations that GKB believe Woodside should know.
 - There are no additional matters that GKB wishes to provide in response to the EP.
- On 2 February 2024, Woodside emailed GKB NOPSEMA's *Consultation Guidelines*, *Consultation Brochure*, and *Draft Policy for Managing Gender-Restricted Information* (SI Report, reference 50.3). This email acknowledged that:
 - (1, 2) Woodside would keep GKB up to date on this activity and that consultation prior to being submitted to NOPSEMA would close for this EP on 23 February 2024.
 - Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) GKB has stated it should be informed as soon as possible following an unplanned event.	(1) Woodside assessment: Woodside acknowledges that GKB should be informed as soon as possible following an unplanned event. Woodside response: In line with the Oil Pollution First Strike Plan, in the highly unlikely event a hydrocarbon release was to impact GKB's area of interest, Woodside would contact GKB.	(1) The Oil Spill Response First Strike Plan (Appendix I) includes a requirement to notify Traditional Owners who may be affected by a spill.
(2) GKB requires regular updates about the activity and will share relevant information with Woodside about the activity.	(2) Woodside assessment: Woodside acknowledges GKB's requirement to be regularly updated about the activity and is commitment to informing Woodside about relevant matters. Woodside response: Woodside will keep GKB informed about progress on the activity and will accept all feedback as part of ongoing engagement explained in Section 7 of the EP.	(2) Woodside is implementing a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i> (Appendix G).
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate Woodside will apply its Management of Change and Revision process (See Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with GKB for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information:		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Woodside sought direction on GKB'S preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation.
- Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to GKB. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan.
- Advised that GKB can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with GKB in October 2023.
- Woodside has addressed and responded to GKB over 27 months, demonstrating a "reasonable period" of consultation.

Woodside asked GKB if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by Regulation 25, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on GKB functions, interests or activities.

Karri Karrak Aboriginal Corporation (KKAC)

Summary of information provided and record of consultation for this EP:

- On 11 October 2023, Woodside emailed KKAC advising of the proposed activity (Record of Consultation, reference 1.89) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 350 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

information on the interests that KKAC and its members may have within the EMBA, information on how KKAC would like to engage, and requested that KKAC provide information to other individuals as required.

- On 12 October 2023, KKAC emailed Woodside noting they would call to discuss arrangements for feedback (SI Report, reference 51.1).
- On 18 October 2023, following a telephone conversation with Woodside on 14 October 2023 inviting Woodside to attend a KKAC Cultural Advice Committee meeting, Woodside met with the KKAC Cultural Advice Committee (SI Report, reference 51.2) comprised of senior knowledge holders, Woodside:
 - Described the EP framework, referring to the Environment Regulations, NOPSEMA's role as regulator and general contents of EPs.
 - Displayed a map of activities open for feedback to be discussed in the meeting and provided a list of other upcoming activities open for consultation.
 - Woodside provided an overview of this activity.
 - Described planned and unplanned environmental risks and impacts in accordance with tables provided in the Information Sheets for the activities, emphasising that unplanned risks are not expected to occur and are unlikely.
 - Displayed and spoke to the EMBA and how they are developed.
 - Stated that Woodside wanted to understand how the functions, activities, or interests of KKAC and the people it represents may be impacted by any of those activities.
 - Specifically asked the following:
 - How could these activities impact your cultural values, interests, and activities - does protecting the environment do enough to protect your cultural values?
 - What are your concerns about the proposed activities and what do you think we should do about them?
 - Is there anything you would like included in the EPs before submission?
 - Is there anyone else Woodside should consult with about the activities?
 - KKAC said:
 - (1) They expected to be kept informed about the activities.
 - (2) That Woodside should advise KKAC in the case of an unplanned event arising from the activities.
 - (3) That KKAC would prefer their rangers to be prepared for, and included, in a response to an unplanned event within the area of their Indigenous Land Use Agreement.
 - (1, 2, 3) Woodside advised that they take feedback from KKAC for the life of the EP.
- (1, 2, 3) On 26 October 2023, Woodside emailed KKAC following up on the meeting of 18 October, confirming outcomes and seeking to understand if KKAC would like to meet further (SI Report, reference 51.3).
- On 29 October 2023, KKAC emailed Woodside acknowledging receipt of the meeting overview and indicating that an invoice would be sent shortly (SI Report, reference 51.4).
- On 2 February 2024, Woodside emailed KKAC informing them the opportunity for consultation closes on 23 February 2024. Woodside also attached links to NOPSEMA's *Consultation Guidelines*, *Consultation Brochure*, and *Draft Policy for Managing Gender-Restricted Information*. Woodside noted they would keep KKAC

informed of progress on this activity, they noted that consultation prior to being submitted to NOPSEMA will close for this EP on 23 February 2024. Woodside reiterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024 (SI Report, reference 51.5).

- **(1)** On 20 June 2025, Woodside emailed KKAC to explore the opportunity to meet and discuss current and future EPs involving Woodside's activities and an approach to working together effectively (SI Report, reference 51.6).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) KKAC requires Woodside to inform it about the activity's progress.	(1) Woodside assessment: Woodside acknowledges KKAC's requirement to be informed about the activity's progress. Woodside response: Woodside has undertaken to keep KKAC informed about progress on the activity.	(1) Although consultation for the purpose of regulation 25 of the Environment Regulations is complete, Woodside will continue to engage with KKAC as part of ongoing engagement (Section 7.15 of the EP).
(2) KKAC requires Woodside to inform it as soon as reasonably practical in the case of an unplanned event arising from the activities.	(2) Woodside assessment: Woodside acknowledges KKAC's requirement to be informed in the case of an unplanned event. Woodside response: In line with the Oil Pollution First Strike Plan (Appendix I), in the highly unlikely event a hydrocarbon release was to impact KKAC's area of interest, Woodside will contact KKAC.	(2) The Oil Spill Response First Strike Plan (Appendix I) includes a requirement to notify Traditional Owners who may be affected by a spill.
(3) KKAC requests rangers be prepared for, and included, in a response to an unplanned event within the area of their Indigenous Land Use Agreement.	(3) Woodside assessment: Woodside considers value in having rangers on the ground, trained up in the highly unlikely event of a spill. It would be beneficial to an immediate response in an emergency situation. Woodside response: Woodside will continue to discuss ranger programs in line with Woodside's Program for Ongoing Engagement.	(3) Woodside is implementing a program to actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i> (Appendix G).
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the	Based on the engagement to date, no additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate Woodside will apply its Management of Change and Revision process (See Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with KKAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on KKAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. - Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to KKAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Asked for the consultation and information sheets to be distributed to members and individuals as required. - Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan. - Advised that KKAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). Reasonable Period: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Woodside commenced consultation with KKAC in October 2023. - Woodside has addressed and responded to KKAC in over 27 months, demonstrating a "reasonable period" of consultation.		

Woodside asked KKAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on KKAC functions, interests or activities.

Wagyl Kaip Southern Noongar Aboriginal Corporation (Wagyl Kaip)

Summary of information provided and record of consultation for this EP:

- On 31 October 2023, Woodside emailed Wagyl Kaip advising of the proposed activity (Record of Consultation, reference 1.90) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that Wagyl Kaip and its members may have within the EMBA, information on how Wagyl Kaip would like to engage, and requested that Wagyl Kaip provide information to other individuals as required.
- On 7 November 2023, Woodside emailed Wagyl Kaip following up on the 31 October 2023 email, offering to meet and asking whether any further information was required and whether there were any other individuals or groups that Woodside should consult with (SI Report, reference 52.1). No response was received.
- On 22 December 2023, Woodside phoned Wagyl Kaip and left a message asking for a return call (SI Report, reference 52.2).
- On 22 December 2023, Woodside sent a follow-up email requesting the opportunity to meet and answer any questions regarding the EP that Wagyl Kaip may have (SI Report, reference 52.3).
- (1) On 8 January 2024, Wagyl Kaip emailed Woodside advising the EP would have no effect on Wagyl Kaip Aboriginal Corporation heritage or cultural values (SI Report, reference 52.4). (1) Woodside would note this feedback in the EP.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Wagyl Kaip has provided feedback stating the proposed activity will have no effect on Wagyl Kaip Aboriginal Corporation heritage or cultural values.	(1) Woodside assessment: Woodside accepts that Wagyl Kaip's feedback on the activity at this time. Woodside response: Separate from consultation under regulation 25 of the Environment Regulations, Woodside supports ongoing engagement with Wagyl Kaip (Section 7.15) of the EP.	(1) Although consultation for the purpose of regulation 25 of the Environment Regulations is complete, Woodside will continue to engage with Wagyl Kaip as part of ongoing engagement (Section 7.15 of the EP).
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the	Based on the engagement to date, no additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate Woodside will apply its Management of Change and Revision process (See Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Wagyl Kaip for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on Wagyl Kaip's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. - Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to Wagyl Kaip. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Asked for the consultation and information sheets to be distributed to members and individuals as required. - Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan. - Advised that Wagyl Kaip can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). Reasonable Period: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Woodside commenced consultation with Wagyl Kaip in October 2023. - Woodside has addressed and responded to Wagyl Kaip over 26 months, demonstrating a "reasonable period" of consultation.		

Woodside asked Wagyl Kaip if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on Wagyl Kaip functions, interests or activities.

Whadjuk Aboriginal Corporation (Whadjuk)

Summary of information provided and record of consultation for this EP:

- On 9 October 2023, Woodside telephoned Whadjuk advising them that Woodside would be sending consultation information regarding this EP, requesting that they review the information and respond with any feedback (SI Report, reference 53.1).
- On 9 October 2023, Woodside emailed Whadjuk advising of the proposed activity (Record of Consultation, reference 1.91) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that Whadjuk and its members may have within the EMBA, information on how Whadjuk AC would like to engage, and requested that Whadjuk AC provide information to other individuals as required.
- On 7 November 2023, Woodside emailed Whadjuk requesting any feedback regarding this activity and offering to meet with Whadjuk (SI Report, reference 53.2). No response was received.
- On 28 April 2025, Whadjuk (via SWALS) emailed Woodside about an unrelated activity and requested an opportunity to meet with Woodside to discussing a broader engagement framework with Whadjuk for Perth-based activities (SI Report, reference 53.3).
- Between 29 April – 6 May 2025, Woodside exchanged emails with Whadjuk (via SWALS) about meeting to discuss an unrelated EPs and other matters not relating to EP consultation (SI Report, reference 53.4 – 53.9).
- On 23 May 2025, Woodside met Whadjuk to discuss an unrelated EP (SI Report, reference 53.10). Matters discussed relevant to this activity included:
 - (1) Whadjuk expressed concern about the possibility of a spill including:
 - Impact to marine life not just on Rottnest Island but north of Perth and Rockingham.
 - Impact to coastline.
 - Impact to fish runs.
 - (1) Woodside explained that this would be a highly unlikely event and that EPs outline a robust and detailed assessment of the environment including current risks, impacts and mitigation measures.
 - (2) Whadjuk stated that the whole coastline has symbolic sites/areas, as well as Noongar tracks.
 - (3) Whadjuk stated Wadjemup (Rottnest Island) is an important spiritual place for Whadjuk.
 - (4) Whadjuk stated that cultural groups are connected, there are affiliated groups / people along the coast to Roebourne.

- (5) Whadjuk state that there are Songlines, affiliations to cultural and Sea Country totems and seasonal fishing traditions.
- (2, 3, 4, 5) Woodside discussed the importance of consultation, that it is ongoing and information sharing, and how consultation is represented in EPs. Woodside also reiterated that consultation is two-way, and involved listening to the Board, understanding cultural values, valuing healthy and robust relationships, and working together through engagement.
- (6) Whadjuk requested a cultural heritage assessment, as well as an environmental assessment to assess impacts, and requested to be provided with environment and cultural heritage plans in respect to Whadjuk Country.
- (6) Woodside took Whadjuk's request for a cultural heritage assessment on notice.
- On 3 June 2025, Whadjuk emailed Woodside a letter requesting whether Woodside had undertaken a Cultural Heritage Impact assessment specific to Whadjuk land and Sea Country; and if the assessment did not exist, Whadjuk proposed the development of a Whadjuk-led assessment in partnership with Woodside (SI Report, reference 53.11).
- On 4 June 2025, Whadjuk (via legal representative) emailed Woodside (SI Report, reference 53.12). The email stated:
 - (7) Whadjuk is seeking a Confidentiality and Cultural Information Protection Agreement, this agreement would ensure appropriate protection of Whadjuk's cultural and intellectual property.
- On 12 June 2025, Woodside emailed Whadjuk (SI Report, reference 53.13). Woodside requested a meeting with Whadjuk to discuss:
 - (6) Whadjuk's proposal for a cultural heritage assessment.
 - (7) Terms for managing and handling confidential and culturally sensitive information.
- (6, 7) On 18 June 2025, Woodside emailed Whadjuk (via SWALS) to follow up on an email sent on 12 June 2025 inviting Whadjuk to meet (SI Report, reference 53.14)
- (6, 7) On 18 June 2025, Whadjuk (via SWALS) emailed Woodside to accept Woodside's offer to meet to discuss a confidentiality and cultural information protection agreement and a cultural assessment. The meeting was scheduled for 9 July 2025 (SI Report, reference 53.15).
- On 19 June 2025, Woodside emailed Whadjuk (via SWALS) an invitation to a meeting scheduled for 9 July 2025 (SI Report, reference 53.16).
- On 9 July 2025, Woodside and Whadjuk met about an unrelated EP and discussed a number of matters relating to Whadjuk and its cultural values (SI Report, reference 53.17). Matters relevant to this activity included:
 - (8) Whadjuk stated that migratory birds were sacred to Whadjuk people and enquired how birds would be protected in the case of an unplanned incident.
 - (8) Woodside replied that migratory birds would be recorded in EPs as a cultural value for Whadjuk and that mitigation measures would be put in place for migratory birds.
 - (6) Whadjuk said it wished to secure a Whadjuk commissioned Cultural Heritage Plan.
 - (6) Woodside invited Whadjuk to provide a draft plan for Woodside's review. This plan would include a proposed scope of work.
 - (7) Whadjuk wishes to finalise an Intellectual Property Agreement/Confidentiality Plan with Woodside.
 - (7) Woodside said it would send Whadjuk a draft confidentiality agreement for Whadjuk's review.
 - (9) Whadjuk seeks funding from Woodside for a ranger program.

- (9) Woodside provided information about Woodside’s support for Traditional Owner ranger programs.
- (10) Whadjuk enquired how information provided by Whadjuk would be captured in an unrelated EP.
- (10) Woodside explained how information about Whadjuk’s cultural values would be included in an EP and an action was recorded for Woodside to provide a list of these values to Whadjuk.
- (11) Whadjuk requested information about agreements Woodside has with Traditional Owner groups in the Pilbara including royalties. Whadjuk stated it should have the same agreements in place as Woodside has with Pilbara groups.
- (11) Woodside explained that agreements with Pilbara Traditional Owners generally relate to land access management.
- (10) On 15 July 2025, Woodside emailed Whadjuk details of cultural values obtained during consultation for an unrelated EP (SI Report, reference 53.18).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside’s Response	Inclusion in Environment Plan
---	--	-------------------------------

(1) Whadjuk expressed concern about the possibility of a spill: • Impact to marine life not just on Rottnest Island but north of Perth and Rockingham. • Impact to coastline. • Impact to fish runs.	(1) Woodside assessment: In the highly unlikely event of a spill, Woodside would enact its First Strike Plan, which includes contacting the regulator, NOPSEMA and any relevant cultural authorities that may be affected. Woodside response: Woodside explained during the consultation of another EP that this would be a highly unlikely event. Woodside stated that it provides a robust and detailed assessment of the environment including current risks, impacts and mitigation measures.	(1) Measures relating to oil spills are covered in Appendix H – Oil spill Preparedness and Response and Appendix I – Oil Pollution First Strike Plan.
(2) Whadjuk stated that the whole coastline has symbolic sites/areas as well as Noongar tracks.	(2) Woodside assessment: Woodside acknowledges Whadjuk's feedback that the whole coastline has symbolic sites/areas as well as Noongar tracks. Woodside response: Woodside has included this value in the EP.	(2) Woodside recorded this cultural value in Section 4.9 of the EP.
(3) Whadjuk stated Wadjemup (Rottnest Island) is an important spiritual place for Whadjuk.	(3) Woodside assessment: Woodside acknowledges Whadjuk's feedback that Wadjemup is an important spiritual place. Woodside response: Woodside included this value in the EP.	(3) Woodside recorded this cultural value in Section 4.9 of the EP.
(4) Whadjuk stated that cultural groups are connected, there are affiliated groups / people along the coast to Roebourne.	(4) Woodside assessment: Woodside acknowledges Whadjuk's feedback that there are affiliated groups / people along the coast to Roebourne. Woodside response: Woodside has included this value in the EP.	(4) Woodside recorded this cultural value in Section 4.9 of the EP.

(5) Whadjuk state that there are Songlines, affiliations to cultural and Sea Country totems and seasonal fishing traditions.	(5) Woodside assessment: Woodside acknowledges Whadjuk's feedback that there are Songlines, affiliations to cultural and Sea Country totems and seasonal fishing traditions. Woodside response: Woodside has included this value in the EP.	(5) Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Section 6.
(6) Whadjuk requested a cultural heritage assessment as well as an environmental assessment to assess impacts, and requested to be provided with environment and cultural heritage plans in respect to Whadjuk Country.	(6) Woodside assessment: Woodside acknowledges Whadjuk's request for a cultural heritage assessment. Woodside response: Woodside met with Whadjuk on 9 July 2025 to discuss how to progress matters relating to Whadjuk's request for a cultural heritage plan.	(6) No action required
(7) Whadjuk requested that Woodside and Whadjuk enter into a Confidentiality and Cultural Information Protection Agreement.	(7) Woodside assessment: Woodside acknowledges the importance of matters relating to confidentiality and the protection of cultural information. Woodside response: Woodside met with Whadjuk on 9 July 2025 to discuss how to progress matters relating to confidentiality and Whadjuk's request for a Confidentiality and Cultural Information Protection Agreement.	(7) No action required.
(8) Migratory birds are sacred to Whadjuk people.	(8) Woodside assessment: Woodside acknowledges Whadjuk's feedback that migratory birds are sacred to Whadjuk people. Woodside response: Woodside explained that this cultural value would be recorded in an unrelated EP (and subsequently recorded in this EP) and that mitigation measures would be in place for migratory birds.	(8) Woodside recorded this cultural value in Section 4.9 of the EP. Mitigation measures relating to migratory birds are in Section 6.
(9)	(9)	(9) No action required.

Whadjuk seeks a funding from Woodside for a ranger program.	Woodside assessment: Woodside sees the value of groups having ranger programs. Woodside response: Woodside is in the process of developing a ranger funding program. Whadjuk's request will be evaluated in accordance with the program's criteria upon its implementation.	
(10) Whadjuk sought information from Woodside about how Whadjuk's information would be captured in the EP.	(10) Woodside assessment: Woodside will capture Whadjuk's cultural values and feedback to include in EPs as relevant. Woodside response: Woodside has provided Whadjuk with details of cultural values obtained during consultation for an unrelated EP.	(10) No action required.
(11) Whadjuk requested information about agreements Woodside has with Traditional Owner groups in the Pilbara including royalties. Whadjuk stated it should have the same agreements in place as Woodside has with Pilbara groups.	(11) Woodside assessment: Woodside notes that it has no agreements relating to EP consultations in the Pilbara and that consultation agreements are not required for effective consultation. Woodside response: Woodside explained that agreements with Pilbara Traditional Owners generally relate to land access and management.	(11) No action required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Whadjuk for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on Whadjuk preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation.
- Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to Whadjuk. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans".
- Advised that Whadjuk can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Woodside commenced consultation with Whadjuk in October 2023.
- Woodside has addressed and responded to Whadjuk over 27 months, demonstrating a "reasonable period" of consultation.

Woodside asked Whadjuk if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified. Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on Whadjuk functions, interests or activities.

Yued Aboriginal Corporation (Yued)

Summary of information provided and record of consultation for this EP:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 9 October 2023, Woodside emailed Yued advising of the proposed activity (Record of Consultation, reference 1.92) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that Yued and its members may have within the EMBA, information on how Yued would like to engage, and requested that Yued provide information to other individuals as required.
- (1) On 13 October 2023, Yued responded requesting maps overlaying the extent of oil spill modelling and the Yued ILUA area (SI Report, reference 54.1).
- (1) On 18 October 2023, Woodside emailed Yued providing the requested map and offering to meet or answer any questions (SI Report, reference 54.2).
- On 8 November 2023, Woodside emailed Yued offering the opportunity for feedback (SI Report, reference 54.3).
- (2) On 9 November 2023, Yued emailed Woodside advising that at present it had no feedback, and there did not appear to be any adverse impacts in the Yued area. Yued advised that they would endeavour to contact Woodside after their election cycle (SI Report, reference 54.4).
- (2) On 10 November 2023, Woodside emailed Yued thanking them for the response and advising Woodside would take feedback at any time as part of Woodside's approach to ongoing consultation (SI Report, reference 54.5).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Yued requested maps overlaying the extent of oil spill modelling and the Yued ILUA area.	(1) Woodside assessment: Woodside acknowledged that Yued required further information. Woodside response: Woodside provided Yued with relevant mapping.	(1) Not required.
(2) Yued advised that they have no feedback on this activity, and they would endeavour to contact Woodside after their election cycle.	(2) Woodside assessment: Woodside accepts that Yued has no feedback on the activity at this time. Woodside response: Separate from consultation under regulation 25 of the Environment Regulations, Woodside supports ongoing engagement with Yued (Section 7.12.3.1).	(2) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted it will be assessed and, where appropriate, Woodside will	Based on the engagement to date, no additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Yued Aboriginal Corporation for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: - Woodside sought direction on Yued's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation. - Provided Consultation Information Sheets and Summary Information Sheets developed by Indigenous staff to Yued. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Confirmed the purpose of consultation and set out in detail what is being sought through consultation. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. - Asked for the consultation and information sheets to be distributed to members and individuals as required. - Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan. - Advised that Yued can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). Reasonable Period: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Woodside commenced consultation with Yued in October 2023. - Woodside has addressed and responded to Yued over 27 months, demonstrating a "reasonable period" of consultation. Woodside asked Yued if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified. Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP). Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on Yued functions, interests or activities.		

Balanggarra Aboriginal Corporation (BAC)

BAC is established under the *Native Title Act 1993* (Cth) by the Balanggarra People to represent the Balanggarra People (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 18 July 2023, Woodside emailed BAC NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*. This email also requested that BAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 2 October 2023, Woodside emailed BAC advising of the proposed activity and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that BAC and its members may have within the EMBA, information on how BAC would like to engage, and requested that BAC provide information to other individuals as required (SI Report, reference 46.1).
- On 13 October 2023, following an attempt by Woodside to telephone BAC, Woodside contacted BAC via an alternative email address to seek advice on making contact with the BAC board or contact person (SI Report, reference 46.2).
- On 25 October 2023, Woodside phoned BAC via the registered number listed on ORIC. Call was taken but Woodside was informed that this was not the correct number for BAC. Subsequently, Woodside emailed the Kimberley Land Council enquiring about the best method of contact for BAC (SI Report, reference 46.3).
- On 2 November 2023, Woodside sent a follow-up email to BAC providing information about the proposed activity, enquiring about the best point of contact, confirming if any further information is required regarding this EP, and advising Woodside is available to meet as suits the CEO and Board of Directors (SI Report, reference 46.4).
- On 23 November 2023, Woodside emailed BAC requesting an opportunity to make introductions, answer any questions and listen to feedback (SI Report, reference 46.5).
- On 23 January 2024, Woodside emailed BAC informing them that consultation prior to the EP being submitted to NOPSEMA will close for this EP on 23 February 2024. Woodside offered to meet with BAC at its preferred place and time. Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024 (SI Report, reference 46.6).
- On 13 March 2024, Woodside emailed BAC requesting an opportunity to meet and discuss Woodside's activities (SI Report, reference 46.7).

Ongoing engagement:

- On 17 February 2025, as a result of a change to the activity's EMBA, Woodside emailed BAC advising of the proposed activity, which included the activity's Summary Information Sheet and Consultation Information Sheet (Record of Consultation, reference 3.27). The email included:
 - An overview of the proposed activity.
 - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.

- A request for information on the interests that BAC and its members may have within the EMBA.
- A request for feedback by 19 March 2025.
- A request for information on how BAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
- Woodside's commitment to managing gender-restricted or other culturally sensitive information, and working with BAC to understand how it would like information to be managed.
- That feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
- A request for BAC to provide information about the proposed activity to other individuals, as required.
- On 4 March 2025, Woodside emailed BAC a reminder email about the proposed activity, following an earlier email sent on 17 February 2025 (SI Report, reference 46.8). The email included:
 - A request for feedback by 19 March 2025.
 - A request for information on how BAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
 - Woodside's commitment to managing gender-restricted or other culturally sensitive information, and working with BAC to understand how it would like information to be managed.
 - That feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
 - A request for BAC to provide information about the proposed activity to other individuals, as required.
- On 5 March 2025, Woodside telephoned BAC about the previous day's reminder email (SI Report, reference 46.09). Woodside was informed that the 4 March 2025 email had been forwarded to BAC's Chief Executive Officer for attention and action.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with BAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 366 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Woodside sought direction on BAC's preferred method of consultation. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 consultation.
- Provided Consultation Information Sheet and Summary Information Sheets developed by Indigenous staff to BAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity in a digestible, plain English format.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Confirmed the purpose of consultation and set out in detail what is being sought through consultation.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.
- Woodside has provided NOPSEMA's brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan".
- Advised that BAC can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations).
- On 17 February 2025, as a result of a change to the activity's EMBA, Woodside emailed BAC advising of the proposed activity, which included:
 - An overview of the proposed activity.
 - Links to the NOPSEMA *Consultation Guidelines*, *Consultation Brochure*, and *Draft Policy for Managing Gender-Restricted Information*, and contact details.
 - Information on the interests that BAC and its members may have within the EMBA.
 - A request for feedback by 19 March 2025.
 - Information on how BAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
 - Woodside's commitment to managing gender-restricted or other culturally sensitive information, and working with BAC to understand how it would like information to be managed.
 - That feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
 - A request for BAC to provide information about the proposed activity to other individuals, as required.

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- The revised version of the Consultation Information Sheet identifying the new EMBA, was available on the Woodside website from February 2025.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Woodside commenced consultation with BAC in October 2023, with a further consultation period in October 2024 due to a revised EMBA which determined BAC as a relevant person to consult.
- Woodside has addressed and responded to BAC over 27 months, demonstrating a “reasonable” period of consultation.

Woodside asked BAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on BAC’s functions, interests or activities.

Native Title Representative Bodies

Yamatji Marlpa Aboriginal Corporation (YMAC)

YMAC is the Native Title Representative Body for the Yamatji and Pilbara regions of Western Australia. As such, they are not a Prescribed or Registered Native Title Body Corporate but exist to assist native title claimants and holders.

Historical engagement:

- On 13 March 2023, Woodside emailed YMAC as to whether YMAC considers itself a ‘relevant person’ under regulation 25 of the Environment Regulations for the purposes of consultation on EPs and, if so, whether that relevance is limited to a facilitation function in its capacity as a representative of Traditional Owner groups/corporations that overlap or adjacent to the EMBA of a particular activity.
- Between 15 March 2023 – 20 March 2023, Woodside and YMAC corresponded via email regarding whether YMAC considers itself a ‘relevant person’ under relevant sections of the Environment Regulations for the purposes of consultation in EPs.
- YMAC confirmed that it is a ‘relevant person’ under regulation 25(1) of the Environment Regulations for the purposes of consultation on EPs only in relation to its facilitation and coordination function as a Native Title Representative Body under applicable federal legislation. YMAC also stated that it did not intend to provide substantive comment on the content of EPs. Woodside acknowledged YMAC’s position and advised that that this assessment would be included in Woodside’s Eps.
- On 20 March 2023, YMAC emailed Woodside confirming that they agree to their advice being included in reporting (YMAC is the representative for NTGAC and Nanda Aboriginal Corporation and was the representative for Yinggarda Aboriginal Corporation until April 2023).
- (1) On 12 June 2023, YMAC emailed Woodside on behalf of itself and its clients. The email attached:
 - A proposal to fund in-house expertise to support consultations and administration of the consultation framework.
 - A draft consultation framework.
- (1) On 25 July 2023, Woodside emailed YMAC:
 - Agreeing in principle to the draft consultation framework and funding proposal but seeking further discussion on details.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Stating that Woodside is open to considering an industry funded position at YMAC to support the work they are facilitating.
- Attaching Woodside's Program for Ongoing Engagement with Traditional Custodians.
- Seeking a meeting with YMAC in relation to the draft consultation framework at YMAC's earliest convenience.

Summary of information provided and record of consultation for this EP:

- On 23 October 2023, Woodside emailed YMAC advising of the proposed activity (Record of Consultation, reference 1.104) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website). The email requested information on the interests that YMAC and its members may have within the EMBA, information on how YMAC would like to engage, and requested that YMAC provide information to other individuals as required.
- On 13 November 2023, Woodside emailed YMAC noting that the previous email had included the Consultation Information Sheet, not the Summary Information Sheet. Woodside attached a copy of the Summary Information Sheet (SI Report, reference 60.1).

Ongoing engagement:

- (1) On 14 December 2023, Woodside emailed YMAC re-attaching the Program of Ongoing Consultation and advising that Woodside would like to progress negotiations on consultation frameworks with groups represented by YMAC (SI Report, reference 60.2). Woodside proposed the protocol would include (among other things):
 - The procedures Woodside will follow when a submission requires consultation.
 - Initial and ongoing consultation in relation to activities.
 - Agreement as to how Woodside will provide the information groups requires to make free, prior and informed decisions about Woodside's EPs.
 - Agreement as to how groups will provide feedback and how that can best be represented in EPs.
 - An agreed schedule of rates for groups participation in consultation.
 - How to manage the outputs of the consultations.
- On 21 December 2023, Woodside emailed YMAC providing a list of upcoming activities as requested by YMAC (SI Report, reference 60.3).
- (1) On 28 February 2024, Woodside emailed YMAC draft consultation agreements for consideration including aims of consultation, proposed consultation agreement details and a consultation meeting framework. Woodside invites YMAC to propose a schedule of rates and other details relating to its engagements (SI Report, reference 60.4).
- On 29 February 2024, YMAC emailed Woodside acknowledging receipt of email and draft consultation agreement for review (SI Report, reference 60.5).
- On 9 September 2024, Woodside invited YMAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 25 September 2024 (SI Report, reference 79.1).
- On 3 October 2024, Woodside invited YMAC to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 23 October 2024 (SI Report, reference 79.3).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
---	--	-------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

(1) YMAC has provided feedback that it is seeking an industry funded position to support consultations for this and other activities. YMAC has provided a draft consultation framework to assist the consultation process.	(1) Woodside assessment: Woodside has assessed the <i>Program of Ongoing Engagement with Traditional Custodians</i> will support ongoing consultation with YMAC and/or the groups it represents. This can address appropriate support for resourcing, separate from consultation under regulation 25 of the Environment Regulations. Sufficient information to allow informed assessment has already been provided by other means. Woodside response: In December 2023, Woodside emailed YMAC draft consultation agreements for consideration. Woodside has invited YMAC to propose a schedule of rates and other details relating to its engagements.	(1) Woodside will continue to engage with YMAC in relation to its request for an industry funded position and has put a proposal to YMAC in December 2023 for a Framework Agreement. This is described further in the <i>Program of Ongoing Engagement with Traditional Custodians</i>, (Appendix G).
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate Woodside will apply its Management of Change and Revision process (See Section 7.6.1 of the EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with YMAC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. YMAC has indicated that it will not provide substantive comment on EPs: Sufficient Information: - Woodside sought direction on YMAC's preferred method of consultation. This resulted in meetings being coordinated at location of YMAC's choosing, with YMAC nominated representatives. These meetings included Woodside presenting information in a format and style that was readily accessible and appropriate. - Provided Consultation Information Sheet and Consultation Summary Sheets developed by Indigenous staff to YMAC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. - Articulated planned and unplanned environmental risks and impacts, with proposed controls. Reasonable Period:		

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).
- Woodside commenced consultation with YMAC in October 2023.
- Woodside has addressed and responded to YMAC over 26 months, demonstrating a “reasonable period” of consultation.

Woodside asked YMAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on YMAC functions, interests or activities.

Kimberley Land Council (KLC)

Kimberley Land Council is the Native Title Representative Body for the Kimberley region of Western Australia. As such, it is not a Prescribed Body Corporate or Registered Native Title Body Corporate but exists to assist Native Title claimants and holders.

Historical engagement:

- (1) On 16 February 2023, Woodside emailed KLC following a telephone discussion about EP consultations confirming that the KLC does not wish to be consulted on EPs but will facilitate consultation with Aboriginal Corporations it supports.

Please see Ngujima-Yin Facility Operations EP (Appendix F and SI Report) for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 19 October 2023, Woodside emailed KLC advising of the proposed activity (Record of Consultation, reference 1.77) and provided a simplified Consultation Information Sheet including a link to the detailed information sheet on Woodside’s website, as well as a summary overview fact sheet. The email requested information on the interests that KLC and its members may have within the EMBA, information on how KLC would like to engage, and requested that KLC provide information to other individuals as required.
- On 25 October 2023, Woodside emailed KLC by way of introduction to Woodside’s First Nations engagement team. Woodside requested the point of contact for WWAC, Wiliggin AC, WGAC and DAC and associated members to provide updates and information on Woodside activities and listen to feedback (SI Report, reference 61.1).
- On 30 October 2023, KLC emailed Woodside providing advice on point of contact for Aboriginal Corporations via an online website (SI Report, reference 61.2).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- (1) On 2 November 2023, Woodside emailed KLC confirming that Woodside had attempted to contact Aboriginal Corporations via website. Woodside reinforced that it was available to have discussions with each Aboriginal Corporation and was accommodating to meet their needs regarding dates and locations (SI Report, reference 61.3).
- (1) On 2 November 2023, KLC emailed Woodside stating it would pass on Woodside contact details to relevant organisations (SI Report, reference 61.4).

Woodside has been engaging with KLC on behalf of its represented groups as described in relevant sections above.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) KLC does not wish to be consulted on EPs but will facilitate consultation with Aboriginal Corporations it supports.	(1) Woodside assessment: Woodside acknowledges that KLC does not wish to be consulted on EPs but will facilitate consultation with Aboriginal Corporations it supports. Woodside response: Woodside has consulted with KLC in relation to its facilitation and coordination function as a Native Title Representative Body under applicable federal legislation.	(1) No additional measures or controls are required.
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with KLC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically:

Sufficient Information:

- Woodside sought direction on KLC's preferred method of consultation. This resulted in meetings being coordinated at location of KLC's choosing, with KLC nominated representatives. These meetings included Woodside presenting information in a format and style that was readily accessible and appropriate.
- Provided Consultation Information Sheet and Consultation Summary Sheets developed by Indigenous staff to KLC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format.
- Articulated planned and unplanned environmental risks and impacts, with proposed controls.
- Confirmed the purpose of consultation and set out in detail what was being sought through consultation.
- Asked for the consultation and information sheets to be distributed to members and individuals as required.

Reasonable Period:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).
- Woodside commenced consultation with KLC in October 2023.
- Woodside has addressed and responded to KLC over 27 months, demonstrating a “reasonable period” of consultation.

Woodside asked KLC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on KLC functions, interests or activities.

Northern Land Council (NLC)

NLC is the Native Title Representative Body for the northern region of the Northern Territory – including the Tiwi Islands and Groote Eylandt. NLC is not a Prescribed or Registered Native Title Body Corporate but exist to assist native title claimants and holders.

Summary of information provided and record of consultation for this EP:

- On 18 December 2023, Woodside emailed NLC advising of the proposed activity (Record of Consultation, reference 1.110) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside’s website) as well as a summary overview fact sheet. The email requested information on the interests that NLC and its members may have within the EMBA, information on how NLC would like to engage, and requested that NLC provide information to other individuals as required.
- On 17 January 2024, Woodside sent a follow-up email to NLC about the proposed activity. Woodside advised NLC that comments can be made over the life of the EP and offered to pay reasonable fees to consult with relevant corporations (SI Report, reference 77.1).
- On 18 January 2024, NLC emailed Woodside confirming receipt of Woodside’s previous email and advising the information provided will be reviewed (SI Report, reference 77.2).
- On 18 January 2024, Woodside emailed NLC thanking them for their response (SI Report, reference 77.3).
- On 6 February 2024, NLC emailed Woodside apologising for the delay in response and provided the best contact moving forward (SI Report, reference 77.4).
- On 7 February 2024, Woodside emailed NLC thanking them for their response and reached out to the new contact (SI Report, reference 77.5).

Ongoing engagement:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 17 February 2024, as a result of a change to the activity's EMBA, Woodside emailed NLC advising of the proposed activity (Record of Consultation, reference 1.106), which included the activity's Summary Information Sheet and Consultation Information Sheet. The email included:
 - An overview of the proposed activity.
 - Links to the NOPSEMA Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information, and contact details.
 - Information on the interests that NLC and its members may have within the EMBA.
 - A request for feedback by 19 March 2025.
 - Information on how NLC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
 - Woodside's commitment to managing gender-restricted or other culturally sensitive information, and working with NLC to understand how it would like information to be managed.
 - That feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
 - A request for NLC to provide information about the proposed activity to other individuals, as required.
- (1) On 20 February 2025, Woodside met with NLC in Darwin to discuss the activity, highlighting the revised EMBA and EP. NLC provided feedback that there were no concerns (SI report, reference 77.6). (1) Woodside noted the feedback and advised it would document that there were no objections or claims from NLC relating to the activity.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) NLC provided feedback stating that there were no issues, including no objections or claims, relating to the activity.	(1) Woodside assessment: Woodside acknowledges that NLC had no issues or concerns, including no objections or claims, regarding this EP. Woodside response: Woodside will reflect NLC's feedback in the EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	(1) No additional measures or controls are required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has	Based on the engagement to date, no additional measures or controls required.

	been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with NLC for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: • Woodside sought direction on NLC's preferred method of consultation. This resulted in a meeting being coordinated at location of NLC choosing, in Darwin, with NLC nominated representatives. The meeting included Woodside presenting information in a format and style that was readily accessible and appropriate. • Provided Consultation Information Sheet and Consultation Summary Sheets developed by Indigenous staff to NLC. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. • Articulated planned and unplanned environmental risks and impacts, with proposed controls. • Confirmed the purpose of consultation and set out in detail what was being sought through consultation. • Asked for the consultation and information sheets to be distributed to members and individuals as required. • On 17 February 2024, as a result of a change to the activity's EMBA, Woodside emailed NLC advising of the proposed activity, which included: – An overview of the proposed activity. – Links to the NOPSEMA <i>Consultation Guidelines</i>, <i>Consultation Brochure</i>, and <i>Draft Policy for Managing Gender-Restricted Information</i>, and contact details. – Information on the interests that NLC and its members may have within the EMBA. – A request for feedback by 19 March 2025. – Information on how NLC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face. – Woodside's commitment to managing gender-restricted or other culturally sensitive information, and working with NLC to understand how it would like information to be managed. – That feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. – A request for NLC to provide information about the proposed activity to other individuals, as required. Reasonable Period: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • The revised version of the Consultation Information Sheet identifying the new EMBA, was available on the Woodside website from February 2025. • Woodside originally published advertisements about the activity in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).

- Woodside commenced consultation with NLC in December 2023, with a further consultation period in February 2025 due to a revised EMBA which determined NLC as a relevant person to consult.
- Woodside has addressed and responded to NLC in over 25 months, demonstrating a “reasonable period” of consultation.

Woodside asked NLC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on NLC functions, interests or activities.

Self-identified First Nations Groups

Ngarluma Yindjibarndi Foundation Ltd (NYFL)

NYFL was created to act as Trustee for the Trust under the Northwest Shelf Agreement 1998 struck between the Ngarluma and Yindjibarndi registered native title claimants, the NWS JVs and Woodside, prior to the resolution of the Ngarluma and Yindjibarndi native title claim. Its purpose is to carry on the business of enterprise development, investment and social welfare.

In 1999 the Ngarluma and Yindjibarndi native title claim was settled with the Federal Court appointing, at the request of the common law native title holders, the Ngarluma Aboriginal Corporation (NAC) as PBC to represent the communal interests of the Ngarluma people and the Yindjibarndi Aboriginal Corporation as PBC to represent the communal interests of the Yindjibarndi people. In August 2023 Yindjibarndi advised Woodside that that NYFL would manage Oil and Gas matters on behalf of Yindjibarndi.

Historical engagement:

- On 18 July 2023, Woodside emailed NYFL NOPSEMA’s *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*.
- On 26 July 2023, Woodside emailed NYFL Woodside’s planned *Program of Ongoing Engagement with Traditional Custodians*.

Please see *Scarborough Seabed Intervention and Trunkline Installation EP (Appendix F and SI Report)* for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 19 October 2023, Woodside emailed NYFL regarding the proposed activity (Record of Consultation, reference 1.71) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside’s website) as well as a summary overview fact sheet. The email requested information on the interests that NYFL and its members may have within the EMBA, information on how NYFL would like to engage, and requested that NYFL

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 376 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

provide information to other individuals as required. Woodside requested information be provided by 20 November 2023 and offered further information, support, and any assistance required by NYFL to participate in consultation.

- On 27 October 2023, NYFL provided its position statement regarding industry consultation (SI Report, reference 62.1). NYFL:
 - (1) Called for an updated proposal by Woodside to improve consultation.
 - (2) Advised that it does not have the capacity to respond adequately to EPs or other consultation material sent by proponents nor did it feel the process results in a fair representation of Traditional Owners.
- (1, 2) On 3 November 2023, Woodside emailed NYFL stating that Woodside would respond regarding the concerns raised on in the 27 October 2023 email. Woodside offered to meet to discuss short term solutions (SI Report, reference 62.2).
- On 7 November 2023, Woodside emailed NYFL offering to meet to discuss the issues raised, after the National Sea Country Summit taking place on 6-8 November.2023. Woodside offered to meet the week of 20 November 2023 (SI Report, reference 62.3).
- (1, 2) On 19 November 2023, NYFL emailed Woodside, stating it was awaiting an updated consultation framework from Woodside and was not able to meet as it didn't have resources to apply to developing a framework but looked forward to providing feedback on an updated framework (SI Report, reference 62.4).
- On 20 November 2023, Woodside emailed NYFL acknowledging its email of 19 November 2023 (SI Report, reference 62.5).

Ongoing engagement:

- On 4 December 2023, Woodside emailed NYFL (SI Report, reference 62.6):
 - Seeking clarification about changes in recent correspondence, noting that NYFL had indicated on several occasions over a number of months that it wished to await outcomes of the First Nations Sea Country Summit in Darwin and would be involved in the development of the National First Nations Led Framework on consultation.
 - Indicating it had requested to meet face-to-face with NYFL in November as Woodside wanted to understand NYFL's expectations and discuss the outcomes of the Summit.
 - Requesting discussion on the strategic sponsorship funding request noting it required a business case to understand what NYFL was suggesting and how it would align with NYFL's strategic objectives.
- On 6 December 2023, NYFL emailed Woodside (SI Report, reference 62.7) noting that:
 - At the meeting of 30 August 2023 there was discussion about challenges and proposed solutions to progress EP consultation.
 - (2) NYFL operated in a resource-constrained environment.
 - A proposal to NYFL responding to issues raised at the above meeting was expected.
 - The Summit had been referred to as a potential useful resource for developing an updated framework.
 - NYFL had agreed to progress the *Program of Ongoing Engagement with Traditional Custodians*.
 - Social investment and capacity building funding should remain separate to consultation regarding EPs and other environment and heritage matters.

- (1, 2) On 14 December 2023, Woodside emailed NYFL following up on previous emails about consultation on EPs, acknowledging NYFL's resource constraints and limitations that can be allocated to consultation on the EPs (SI Report, reference 62.8). Woodside proposed/noted the following to support consultation activities that would provide NYFL with the ability to engage and provide input and feedback:
 - Woodside intends to engage a senior Ngarluma person in an advisory/liason capacity, which will include facilitating consultation with NYFL members in relation to EPs.
 - A consultation framework on EPs which includes:
 - Agreement between Woodside and NYFL to consult in a meaningful and genuine manner.
 - The procedures Woodside will follow when a submission requires consultation.
 - Initial and ongoing consultation in relation to relevant Woodside EPs and the senior Ngarluma person's role in facilitating those consultations.
 - Agreement as to how Woodside will provide NYFL with the information NYFL requires to make free, prior and informed decisions about Woodside's EPs.
 - Agreement as to how NYFL will provide feedback and how that can best represent NYFL's feedback to NOPSEMA or other relevant organisations.
 - An agreed schedule of rates for NYFL's participation in consultation regarding Woodside's EPs.
 - How to manage the outputs of consultation.
 - Agreement on an approach to minimise duplication of consultation activities conducted with NAC, Yindjibarndi and NYFL.
 - An EP Consultation Working Group with representation from Woodside and NYFL.
- Suggested further discussion on the proposal at the NYFL/Woodside Quarterly meeting on 19 December 2023.
- On 9 January 2024, Woodside emailed NYFL following up if NYFL would like to discuss the current activities and EPs (SI Report, reference 62.9).
- (1) On 6 March 2024, Woodside emailed NYFL a draft consultation agreement for EPs (SI Report, reference 62.10).
- On 14 March 2024, NYFL emailed Woodside confirming receipt of draft consultation agreement (SI Report, reference 62.11).
- (1) On 19 March 2024, NYFL emailed Woodside an estimate for initial review of Woodside's draft consultation agreement (SI Report, reference 62.12).
- On 17 April 2024, NYFL emailed Woodside noting it was attending to Sorry business and per cultural protocols would require time within the community and engagement would be delayed until appropriate to re-commence (SI Report, reference 62.13).
- (1) On 10 May 2024, Woodside emailed NYFL discussing the intent of the consultation framework in the relation to EPs, how information would be presented and the costs Woodside is prepared to for meet for consultation. Woodside stated it looked forward to NYFL's advice for the preferred manner of consultation and an understanding of the costs NYFL preferred Woodside cover (SI Report, reference 62.14).
- On 9 September 2024, Woodside invited NYFL to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 25 September 2024 (SI Report, reference 83.1).
- On 25 September 2024, Traditional Owner members from NYFL attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.2).

- On 3 October 2024, Woodside invited NYFL to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 23 October 2024 (SI Report, reference 83.3).
- On 10 October 2024, Woodside emailed NYFL regarding this EP, referring to correspondence sent to NYFL on 19 October 2023 and 9 January 2024 (SI Report, reference 62.15), Woodside stated that:
 - Consultation for this EP opened on 19 October 2023 when Woodside provided NYFL consultation information, and closed on 20 November 2023 allowing Woodside to prepare the EP.
 - The EP was now publicly available on NOPSEMA's website (and provided a link) and is being assessed by NOPSEMA.
 - Woodside would shortly resubmit this EP for further assessment and that the EP will be substantively the same as that published on the website.
 - Woodside requested NYFL provide any further feedback by 24 October 2024 to allow for preparation of its EP resubmission.
 - Any feedback, claims or objections about the adverse impacts (if any) relating to the EP that NYFL would like Woodside to consider as part of this resubmission, to be provided to Woodside no later than 24 October 2024.
 - Feedback could be provided by email, phone, directly to the engagement team, or directly to NOPSEMA and providing a range of contact details.
 - Woodside acknowledged discussions relating to framework agreements were ongoing and that consultation for this EP had occurred in parallel.
 - Woodside had provided sufficient information, allowed a reasonable period of time for consultation and given a reasonable opportunity to provide details about the adverse impacts of the activity on NYFL's functions, interests or activities, and looked forward to progressing discussions with NYFL on framework agreements separately.
 - Feedback could continue to be provided during the life of the EP, including after consultation for the EP had closed, during assessment of the EP, and after the EP has been accepted by NOPSEMA, and that Woodside would continue to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP.
 - Should a claim or objection be received following the acceptance of the EP, Woodside would apply its Management of Change and Review process as appropriate.
- On 21 October 2024, Woodside emailed NYFL a reminder about consultation for EPs including this one (SI Report, reference 62.16). Woodside stated that:
 - Consultation for this EP would close on 24 October 2024 and that any feedback, opinions and comments provided by that date would be reflected in the EP resubmission.
 - NYFL was welcome to state its preferred method of consultation including whether it would like to meet face-to-face.
 - Woodside welcomed the opportunity to speak with Elders, office holders and other interested parties about this activity.
 - Woodside provided various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.
 - Woodside managed gender-restricted or other culturally sensitive information carefully and would work with NYFL to understand how it would like its information to be managed.
 - Feedback could continue to be provided during the life of an EP, Woodside would apply its Management of Change and Review process as appropriate.

- NYFL could forward this email and the attached document to members of the NYFL, Traditional Owners and other people and organisations who may be interested.
- NYFL was welcome to call or email Woodside if it would like to discuss consultation for this EP and other EPs further.
- On 21 October 2024, NYFL emailed Woodside (SI Report, reference 62.17). In the email NYFL stated:
 - **(3)** No formal consultation had taken place between NYFL and Woodside on this EP and others.
 - **(3)** Woodside's emails did not meet the standard of meaningful consultation.
 - **(1, 2)** Woodside has provided NYFL with a draft consultation agreement but had declined to agree with NYFL's estimated costs to proceed with the agreement.
 - NYFL would progress consultation on this EP and others once the consultation agreement had been formalised.
 - **(3)** A request for Woodside to note in any record provided to NOPSEMA that NYFL had not been consulted on this EP and others.
- On 23 October 2024, Traditional Owner members from NYFL attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.5).
- On 4 November 2024, Woodside emailed NYFL in response to statements and claims made in NYFL's email on 21 October 2024 (SI Report, reference 62.18). The email included the following:
 - **(1, 2)** Woodside's continued view that NYFL's cost estimates and rates are excessive, and the rates quoted by NYFL related to the North West Shelf agreements and were not consistent with reasonable rates for enabling and supporting consultation on this EP. Woodside also noted that the rates quoted by NYFL were for an initial review of a 7-page agreement.
 - **(3)** Woodside offered to meet and discuss the issue further and would be available to meet in-person in Ieramugadu (Roebourne), the week of 18 November 2024.
 - **(3)** Woodside confirmed that its use of email as one of the methods to engage in consultation correspondence mirrored what appears to be NYFL's primary approach of emailing consultation correspondence, and that Woodside is happy to discuss this EP and the various other EPs NYFL has listed in its recent correspondence.
 - **(1, 2)** Woodside reiterated that the ongoing negotiation of a consultation framework agreement can occur in parallel to consultation for EPs.
 - Woodside included a table identifying the status of each of the EPs referenced by NYFL.
- On 8 November 2024, NYFL emailed Woodside requesting to meet on 20 November 2024 and suggested Woodside approve an interim solution for external (legal) and internal cost estimates, until such a time a Board review is required and cost estimates can be determined (SI Report, reference 62.19).
- On 15 November 2024, Woodside emailed NYFL confirming the invitation to meet on 20 November 2024 and requested NYFL confirm with its legal provider that the cost estimates remain current for the consultation agreement. Woodside stated it would separately email NYFL about remaining EPs outlined in the 21 October correspondence (SI Report, reference 62.20).
- On 15 November 2024, NYFL emailed Woodside confirming NYFL's legal provider had advised the previous cost estimate remains current (SI Report, reference 62.21).

- On 20 November 2024, Woodside emailed NYFL thanking it for the meeting. (1,2) Woodside agreed to the amount for legal fees, as set out in its original estimate provided to Woodside by email on 19 March 2024, with the qualification that the amount is for the finalisation of the draft consultation agreement to be agreed between Woodside and NYFL executive staff for presentation to the NYFL Board for its consideration (SI Report, reference 62.22).
- On 21 November 2024, NYFL advised Woodside about the passing of a Senior Yindjibarndi Elder and founding member of NYFL. The NYFL Board advised that grieving protocols were underway, and the community was commencing a period of mourning (SI Report, reference 62.23). As a sign of respect, Woodside would be limiting communication with NYFL and Yindjibarndi Aboriginal Corporation until further notice.
- On 5 December 2024, Woodside emailed NYFL in response to its correspondence of 21 October 2024 (SI report, reference 62.24). Matters relevant to this EP included:
 - (1) Woodside had met with NYFL on 20 November 2024 to discuss progressing the Consultation Framework Agreement and had agreed a way forward.
 - (3) Woodside did not agree with NYFL's assertion that consultation for this EP and others had not commenced.
 - Woodside confirmed that consultation for this EP was complete and was now closed.
 - Woodside had continued to consult and engage with NYFL via email as this appeared to be NYFL's preferred and primary method of consulting with Woodside on EPs.
 - Woodside was open to meet as part of its ongoing consultation with NYFL.
 - (1) Woodside reiterated that ongoing negotiation of a consultation framework agreement could and continued to occur in parallel to consultation for EPs, including this EP, and that a consultation framework agreement was not a prerequisite to consultation.
 - Woodside attached a summary of the consultation that had occurred for the EP.
- Between 6 – 16 December 2024, Woodside and NYFL exchanged emails regarding matters relating to EP consultation, with NYFL stating it would progress consultation matters in due course (SI Report, references 62.25 – 62.27).
- On 4 March 2025, Woodside emailed NYFL an invitation to share stories and receives updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 5 March 2025 (SI Report, reference 83.7).
- On 5 March 2025, Traditional Owner members from NYFL attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.8).
- On 24 March 2025, Woodside emailed NYFL an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 26 March 2025 (SI Report, reference 83.10).
- On 26 March 2025, Traditional Owner members from NYFL attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside discussed the process for writing EPs and how it communicates feedback from groups to NOPSEMA (SI Report, reference 83.11).
- (1) On 7 April 2025, NYFL emailed Woodside, in response to another EP, advising that NYFL will be meeting with its legal advisers regarding the consultation agreement and will send the agreement to Woodside in due course (SI Report, reference, 62.28).
- On 7 April 2025, Woodside emailed NYFL an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 8 April 2025 (SI Report, reference 83.12).

- On 8 April 2025, Traditional Owner members from NYFL attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report, reference 83.13).
- (1) On 10 April 2025, NYFL emailed Woodside a draft consultation agreement, previously provided by Woodside which incorporated NYFL changes (SI Report, reference 62.29).
- (1) On 24 April 2025, NYFL emailed Woodside with regard to an unrelated EP to note that it believed that NYFL had not been consulted and explained that NYFL looks forward to consulting on EPs once the consultation agreement between NYFL and Woodside has been progressed (SI Report, reference 62.30).
- (1) On 28 April 2025, NYFL emailed Woodside a response to a follow-up email about an unrelated EP and another (SI Report, reference 62.31). NYFL noted it looked forward to progressing the draft consultation agreement.
- (1) On 15 June 2025, Woodside emailed NYFL amendments to a draft consultation agreement (SI Report, reference 62.32). In the email Woodside reiterated that consultation for the preparation of environment plans occurs concurrently with agreement negotiations.
- (1) On 16 June 2025, NYFL emailed Woodside to acknowledge receipt of Woodside's amendments to a draft consultation agreement (SI Report, reference 62.33). (1) On 16 June 2025, NYFL emailed Woodside about an unrelated EP and further confirmed that a consultation agreement is the appropriate framework to engage in consultation and provided availability to discuss the consultation agreement (SI Report, reference 62.34).
- (1) On 19 June 2025, NYFL emailed Woodside and advised Woodside's amendments to a draft consultation were under review (SI Report, reference 62.35).
- (1) On 3 July 2025, NYFL emailed Woodside noting that NYFL looks forward to finalising the consultation agreement and undertaking consultation in regard to an EP not related to this activity (SI Report, reference 62.36).
- (1) On 4 July 2025, Woodside emailed NYFL to state that the preparation of EPs can and does occur concurrently with agreement negotiations (SI Report, reference 62.37).
- (1) On 24 July 2025, NYFL emailed Woodside and suggested meeting to discuss Woodside's amendments to a draft consultation agreement (SI Report, reference 62.38).
- (1) On 23 September 2025, NYFL emailed Woodside to follow-up on its earlier offer to meet to discuss the consultation agreement (SI Report, reference 62.39).
- (1) On 24 September 2025, Woodside emailed NYFL to confirm an online meeting could be held to discuss the consultation agreement however Woodside would not provide funding for legal advice. Woodside reminded NYFL that negotiation towards a consultation agreement can and does occur in parallel with consultation about individual EPs (SI Report, reference 62.40).
- (1) On 25 September 2025, NYFL emailed Woodside thanking for the response the day before and seeking further advice on funding scope (SI Report, reference 62.41).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) NYFL has acknowledged it supports an agreement to enable a process of consultation.	(1) Woodside assessment: Separate from consultation under Regulation 25 of the Environment Regulations, Woodside is open to engaging with a joint First Nations framework for	(1) Not required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	consultation, however, notes that this is not required to undertake and/or complete consultation in the course of preparing this EP. Consultation for this EP has occurred in parallel to discussions about a consultation agreement. Sufficient information to allow informed assessment has already been provided by other means. Woodside has an existing engagement framework in place with NYFL which enables regular (quarterly) communication. Woodside response: Woodside sent a 7-page draft consultation framework to NYFL in March 2024 for its consideration. In November 2024, Woodside met with NYFL to discuss a number of matters relating to the draft consultation agreement, with NYFL agreeing to provide Woodside with feedback on 7 April 2025, NYFL notified Woodside that it would be sending the draft agreement in due course.	
(2) NYFL has noted it operates in a restrained resource environment.	(2) Woodside assessment: Woodside supports reasonable requests for resourcing relating to consultation. Woodside response: The draft consultation agreement provided to NYFL in March 2024 would be an effective mechanism to address resourcing for ongoing consultation.	(2) The proposed Framework Agreement will address appropriate NYFL resourcing.
(3) NYFL has stated no formal consultation had taken place between NYFL and Woodside on this EP. NYFL would progress consultation on this EP once the draft consultation agreement was finalised.	(3) Woodside assessment: Woodside rejects NYFL's assertion that has not been consulted on this EP. Woodside began consulting NYFL on 19 October 2023 and has provided sufficient information, a reasonable period of time, and reasonable opportunity for NYFL to provide feedback. Woodside has clearly communicated to NYFL that consultation for this EP and others has occurred in parallel to negotiations about the draft consultation agreement. Woodside notes that the consultation agreement is not required to undertake and/or consult with NYFL on EPs. Woodside response: The information provided by Woodside meets the requirements of regulation 25 of the Environment Regulations for the reasons set out above.	(3) Not required.

While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with NYFL for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.5 of the EP. Specifically: Sufficient Information: • Sought direction on NYFL's preferred method of consultation. NYFL requested consultation material suitable for Traditional Custodian audience, which was developed and provided. As sufficient information and a reasonable period have been provided (see below), any meetings would be considered as ongoing engagement post regulation 25 of the Environment Regulations consultation. • Provided Consultation Information Sheet and Consultation Summary Sheets developed by Indigenous staff to NYFL. These set out details of the proposed activity, the location of the activity, the timing of the activity as well as the potential risks and impacts of the activity with controls in a digestible, plain English format. • Articulated planned and unplanned environmental risks and impacts, with proposed controls. • Confirmed purpose of consultation and set out in detail what is being sought through consultation. • Asked for the consultation and information sheets to be distributed to members and individuals as required. • Provided NOPSEMA's Brochure "Consultation on offshore petroleum environment plans" and Guideline "Guideline: Consultation in the course of preparing an environment plan. • Advised that NYFL can request that particular information provided in the consultation not be published (to align with regulation 25(4) of the Environment Regulations). • Woodside provided further information to NYFL on 10 October 2024, which included: – The dates Woodside emailed NYFL about the proposed activity. – That the original consultation period commenced on 23 October and closed on 20 November 2023. – A link to the publicly available EP on NOPSEMA's website. – Confirmation that Woodside will resubmit the EP for further assessment.		

- That feedback, claims or objections about the adverse impacts (if any) relating to the EP that NYFL would like Woodside to consider as part of the resubmission, should be provided to Woodside by 24 October 2024.
- That discussions relating to framework agreements can occur in parallel to EP consultation.
- That feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Reasonable Period:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in national, state, and relevant local newspapers including, the North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023).
- Woodside commenced consultation with NYFL in October 2023, with a further consultation period in October 2024.
- Woodside has responded to NYFL in over 27 months, demonstrating a “reasonable period” of consultation.

Woodside asked NYFL it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult. None were identified.

Woodside engages in ongoing consultation, beyond that required by regulation 25 of the Environment Regulations, throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).

Woodside considers the measures and controls described in this EP address the potential impact from the proposed activity on NYFL functions, interests, or activities.

Local government and elected Parliamentary representatives, community groups or organisations

Shire of Exmouth

Summary of information provided and record of consultation for this EP:

- On 15 September 2023, Woodside emailed Shire of Exmouth advising of the proposed activity (Record of Consultation, reference 1.18) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Shire of Exmouth following up on the proposed activity (Record of Consultation, reference 2.1).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Exmouth for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Shire of Exmouth on 15 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Shire of Exmouth with the opportunity to provide feedback over a 28-month period.		

Shire of Ashburton

Summary of information provided and record of consultation for this EP: • On 15 September 2023, Woodside emailed Shire of Ashburton advising of the proposed activity (Record of Consultation, reference 1.17) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 2 October 2023, Shire of Ashburton responded thanking Woodside for its correspondence and noting its support of the significant contribution the oil and gas sector makes to the community (SI Report, reference 63.1). The Shire asked for consideration of the following comments: – (1) The Shire confirmed it had no objections to the proposed activities. – (2) The Shire expects that Woodside will identify, manage and mitigate all possible impacts and risks in line with relevant regulatory frameworks. – (3) The Aboriginal Cultural Heritage Inquiry System (ACHIS) should be consulted to ensure site of significance are not impacted without consents. – (4) The Shire requires Woodside to brief the Shire's Local and District Emergency Management Committee's on its planned responses to such events before any activities commence. – (5) Asks that Woodside has communicated with appropriate emergency management agencies at either/or National, State, District and Local levels on potential hazards and risks around the activity; collaboration and/or cooperation on risk mitigation; considered impacted areas response capacity and capability and sustainability of response activities and escalation triggers.

- **(6)** The Shire anticipates that Woodside has undertaken their own emergency management planning to mitigate risk and recover from a risk related incident, has engaged with external emergency management agencies to ensure emergency management plans are aligned with outcomes to respond and/or recovery from the incident.
- **(7)** The Shire anticipates that Woodside has engaged with the community regarding what may happen in areas that are affected by the proposed activities.
- The Shire proposes that Woodside consider the Shire-operated Pilbara Regional Waste Management Facility (PRWMF) for its decommissioning, recycling and waste disposal purposes.
- **(8)** The Shire appreciates the opportunity to comment on the proposed activities and requests that Woodside provide the Shire with further updates as the proposal progresses.
- On 6 November 2023, Woodside responded thanking Shire of Ashburton for its feedback (SI Report, reference 63.2) and noted:
 - **(1)** That Woodside was required to manage environmental impacts and risks to the environment that may be affected (EMBA) by its proposed activities to As Low As Reasonably Practicable (ALARP) and to an acceptable level, as required by the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Environment Regulations), through the implementation of the EP. Woodside's proposed EPs will be submitted to the National Offshore Petroleum Safety Environmental Management Authority (NOPSEMA) for assessment and acceptance.
 - **(2)** Woodside routinely utilised the Department of Planning, Land and Heritage Aboriginal Cultural Heritage Inquiry System as part of the EP development process and included the results of these inquiry system searches as an appendix to each EP.
 - **(3)** Woodside was looking forward to presenting to the Shire at its Local and District Emergency Management Committee (LEMC) on 21 November 2023 on its approach to managing a hydrocarbon release in the highly unlikely event this occurs. Woodside confirmed it would welcome questions regarding this EP during the presentation. Woodside also sought to clarify the Shire's request to provide a briefing prior to activities commencing as this would potentially mean Woodside is providing frequent briefings on the same issue.
 - **(4)** Woodside has an Oil Pollution First Strike Plan in place for all EPs which details potential impacts, notifications and response mitigations that may be executed to manage an emergency event.
 - **(5)** In the course of developing EPs, Woodside develops oil spill preparedness and response positions tailor for individual projects, and consults with the relevant external emergency management agencies.
 - **(6)** Woodside consults relevant persons in the course of preparing an EP in accordance with regulation 11A (now regulation 25) of the Environment Regulations, and as per Woodside's ongoing consultation approach, feedback and comments received from relevant persons continue to be assessed and responded to, as required, throughout the life of an EP.
 - **(7)** Woodside notes the Shire's interest in ongoing local content opportunities and aims to work with local business through employment and contracting opportunities, where practical, to create and building community capacity and capability.
 - **(8)** Woodside would continue to provide the Shire with significant updates when relevant.
- On 14 November 2023, Shire of Ashburton responded (SI Report, reference 63.3) and, regarding Woodside's query seeking clarification on LEMC briefing requirements, confirmed:
 - **(9)** Woodside was not required to give a briefing on its response capability every time it undertook an activity that had a risk of a hydrocarbon release.

- **(10)** It was proposed that Woodside, when operating in an area, provided a briefing that covered its program of activities over a period of time, which could be determined by Woodside's own assessment of the need and liaising with the relevant LEMC/DEMC.
- **(11)** The word briefing should not be confused with advising stakeholders of any assessed high-risk activity where it is appropriate to inform those who might be impacted or involved in a response or recovery process.
- **(4)** On 21 November 2023, Woodside presented at the Shire of Ashburton LEMC meeting (SI Report, reference 63.4) and provided:
 - An overview of proposed activities relevant to the Shire including this EP.
 - An outline of the consultation approach and explanation of the EMBA as a modelling process of the broadest extent a diesel could spread based on a number of conditions.
 - Details of the oil spill response approach in the highly unlikely event of a hydrocarbon spill.
 - Woodside's key steps when activating an oil spill response plan.
 - Shire of Ashburton thanked Woodside for presenting to the committee and no questions or concerns were raised.
- On 22 November 2023, Woodside responded thanking the Shire for its email from 14 November 2023 and confirmed:
 - **(9)** It noted the Shire's advice that it was not required to provide a briefing on its response capability every time it undertakes an activity that has a risk of a hydrocarbon release.
 - **(10)** It accepted the Shire's proposal to provide briefings that cover its program of activities over a period of time, as determined by Woodside's own assessment of need and in liaison with the relevant LEMC.
 - **(11)** It will provide notifications to relevant stakeholders if required as per Woodside's oil spill response arrangements.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) No objections to the proposed activity.	(1) Woodside assessment: Woodside notes the Shire has no objections. Woodside response: Woodside acknowledged that the Shire of Ashburton had no objections to the activity.	(1) Not required.
(2) Identifying, managing and mitigating all possible impacts and risks.	(2) Woodside assessment: Woodside has assessed environment impacts and risks as well as mitigation and management measures in the EP. Woodside response: Woodside confirmed it was required to manage environmental impacts and risks to the environment by the proposed activities to As Low As Reasonably Practicable (ALARP),	(2) Existing controls considered sufficient as described in Section 6 of this EP.

	as per the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Environment Regulations).	
(3) Consulting the ACHIS.	(3) Woodside assessment: Woodside has utilised the Department of Planning, Land and Heritage Aboriginal Cultural Heritage Inquiry System for this EP. Woodside response: Woodside confirmed it routinely utilised the Department of Planning, Land and Heritage Aboriginal Cultural Heritage Inquiry System as part of the EP development.	(3) A search of DPLH's Aboriginal Cultural Heritage Inquiry System was undertaken for this EP (see Appendix G of this EP).
(4) Briefing the Shire's Local and District Emergency Management Committee before activities commence.	(4) Woodside assessment: Woodside agrees there is merit in briefing the LEMC given its role and function. Woodside response: Woodside noted it was looking forward to presenting to the Shire of Ashburton's LEMC meeting on 21 November 2023 regarding its approach to managing a hydrocarbon release in the highly unlikely event this occurred and would be happy to take questions regarding this EP during the presentation. However, Woodside sought clarification on the frequency of the briefings and whether they were needed for each activity.	(4) Not required.
(5) Ensuring Woodside is communicating with appropriate national and state emergency management agencies.	(5) Woodside assessment: Woodside's oil spill preparedness and response plans for this EP include communication with appropriate agencies. Woodside response: Woodside confirmed it had an Oil Pollution First Strike Plan in place for this EP which detailed potential impacts, notifications and response mitigations that may be executed to manage an emergency event.	(5) In the course of developing this EP, Woodside has developed oil spill preparedness and response positions and an Oil Pollution First Strike Plan (see Appendix H and I of this EP).
(6) Assuming Woodside has emergency management planning in place.	(6) Woodside assessment: Woodside has developed oil spill preparedness and first response plans for this EP. Woodside response: Woodside confirmed that in the course of developing EPs, it developed oil spill preparedness and response positions tailored for individual projects. Woodside consults with the relevant external management agencies to ensure all emergency management plans are aligned with effective outcomes.	(6) In the course of developing this EP, Woodside has developed oil spill preparedness and response positions and an Oil Pollution First Strike Plan (see Appendix H and I of this EP).

(7) Ensuring Woodside has engaged with the community.	(7) Woodside assessment: Woodside has consulted relevant persons whose functions, interests or activities may be impacted by the activity, in line with regulation 25 of the Environment Regulations. Woodside response: Woodside advised it consulted relevant persons in the course of preparing an EP, and as per Woodside's ongoing consultation approach, feedback and comments from relevant persons continued to be assessed and responded to, as required, throughout the life of an EP.	(7) Woodside complies with regulation 25 of the Environment Regulations and consults relevant persons in the course of developing an EP, as described in Section 5.3 of this EP. Woodside also engages in ongoing consultation throughout the life of an EP as described in Section 7.15 of the EP.
(8) Provide updates as activities progress.	(8) Woodside assessment: Woodside will provide the Shire with significant updates with respect to the activity, as appropriate. Woodside response: Woodside confirmed it would continue to provide the Shire with significant updates with respect to the proposed activities when relevant.	(8) Woodside will provide notification of significant change to relevant persons as referenced in Section 7.15 of the EP.
(9) Amended its advice regarding the timing of briefings to the LEMC.	(9) Woodside assessment: Woodside accepts the LEMC's updated advice regarding briefing requirements. Woodside response: Woodside noted the Shire's advice regarding the frequency of briefings to the LEMC.	(9) Not required.
(10) Proposed Woodside give briefings that cover its program of activities over a period of time.	(10) Woodside assessment: Woodside accepts the Shire's proposal for Woodside to deliver briefings that cover its program of activities in an area over a period of time. Woodside response: Woodside confirmed it accepted the Shire's proposal to deliver briefings that cover its program of activities in an area over a period of time.	(10) Not required.
(11) Clarified the need for stakeholders to be advised of any assessed high-risk activity.	(11) Woodside assessment: Woodside will notify relevant stakeholders if required. Woodside response: Woodside confirmed it would notify relevant stakeholders if required as per Woodside's oil spill response arrangements.	(11) The Oil Pollution First Strike Plan (Appendix I) for this EP includes a requirement to notify stakeholders who may be affected by a spill.

While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Ashburton for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers on 13 September 2023 advising of the proposed activities and requesting feedback. • Consultation Information provided to Shire of Ashburton on 15 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has addressed and responded to Shire of Ashburton over a 28-month period.		

City of Karratha

Summary of information provided and record of consultation for this EP:		
• On 15 September 2023, Woodside emailed City of Karratha advising of the proposed activity (Record of Consultation, reference 1.19) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to City of Karratha following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its	No additional measures or controls are required.

	Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with City of Karratha for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to City of Karratha on 15 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided City of Karratha with the opportunity to provide feedback over a 28-month period.		

Shire of Carnarvon

Summary of information provided and record of consultation for this EP:		
• On 13 September 2023, Woodside emailed Shire of Carnarvon advising of the proposed activity (Record of Consultation, reference 1.4) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to Shire of Carnarvon following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Carnarvon for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Shire of Carnarvon on 13 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Shire of Carnarvon with the opportunity to provide feedback over a 28-month period.

Town of Port Hedland

Summary of information provided and record of consultation for this EP:

- On 15 September 2023, Woodside emailed Town of Port Hedland advising of the proposed activity (Record of Consultation, reference 1.20) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Town of Port Hedland following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Town of Port Hedland for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.

- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Town of Port Hedland on 15 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Town of Port Hedland with the opportunity to provide feedback over a 28-month period.

Shire of Wyndham-East Kimberley

Summary of information provided and record of consultation for this EP:

- On 19 September 2023, Woodside emailed Shire of Wyndham-East Kimberley advising of the proposed activity (Record of Consultation, reference 1.29) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Shire of Wyndham-East Kimberley following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 17 February 2025, Woodside emailed Shire of Wyndham-East Kimberley a consultation update on this EP (Record of Consultation, reference 3.3). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with Shire of Wyndham-East Kimberley. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 10 March 2025, Woodside sent a reminder email to Shire of Wyndham-East Kimberley following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcomes of consultation

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Wyndham-East Kimberley for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Shire of Wyndham-East Kimberley on 19 September 2023 and 17 February 2025 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent follow-up emails seeking feedback on the proposed activities.
- Woodside has provided Shire of Wyndham-East Kimberley with the opportunity to provide feedback over a 28-month period.

Shire of Derby/West Kimberley

Summary of information provided and record of consultation for this EP:

- On 18 September 2023, Woodside emailed Shire of Derby/West Kimberley advising of the proposed activity (Record of Consultation, reference 1.24) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a follow-up email to the Shire of Derby/West Kimberley (Record of Consultation, reference 2.1 and included a link to the Consultation Information Sheet on Woodside's website)
- On 24 October 2023, Shire of Derby/West Kimberley responded (SI Report, reference 64.1) and:
 - (1) Confirmed it had no specific feedback regarding the unlikely oil spill impacts.
 - (2) Advised it expected to be notified as part of any oil spill response needed.
- On 03 November 2023, Woodside responded thanking Shire of Derby/West Kimberley for its feedback (SI Report, reference 64.2). Woodside:
 - (1) Noted the Shire had no specific feedback regarding the proposed activity.
 - (2) Confirmed that in the highly unlikely event a hydrocarbon release was to enter the Shire's area of responsibility, Woodside would at that time contact the Shire with respect to response arrangements.
- On 17 February 2025, Woodside emailed Shire of Derby/West Kimberley a consultation update on this EP (Record of Consultation, reference 3.3). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was

undertaking additional consultation with Shire of Derby/West Kimberley. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.

- On 10 March 2025, Woodside sent a reminder email to Shire of Derby/West Kimberley following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.
- On 10 March 2025, Shire of Derby/West Kimberley responded (SI Report, Reference 64.3). The Shire:
 - (1) Confirmed it had no specific concerns or feedback regarding the activity.
 - Noted some personnel changes and confirmed its best contact details going forward.
- On 14 March 2025, Woodside responded thanking the Shire for its feedback (SI Report, reference 64.4). Woodside:
 - (1) Acknowledged the Shire had no concerns or feedback.
 - Thanked the Shire for the updated contact details and confirmed future correspondence would be sent to the nominated address.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) No specific feedback regarding unlikely oil spill impacts.	(1) Woodside assessment: Woodside accepts that the Shire of Derby/West Kimberley has no concerns or feedback. Woodside response: Woodside noted Shire of Derby/West Kimberley had no specific feedback on the activity.	(1) Not required.
(2) Expected to be notified as part of any oil spill response needed.	(2) Woodside assessment: Woodside will notify relevant stakeholders in the highly unlikely event of a hydrocarbon release. Woodside response: Woodside confirmed that in line with the Oil Pollution First Strike Plan, in the highly unlikely event a hydrocarbon release was to enter the Shire's area of responsibility, Woodside would at that time contact the Shire with respect to response arrangements.	(2) The Oil Pollution First Strike Plan (Appendix I) includes a requirement to notify stakeholders who may be affected by a spill.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate,	No additional controls or measures are required.

	Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Derby/West Kimberley for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Shire of Derby/West Kimberley on 18 September 2023 and 17 February 2025 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent follow-up emails seeking feedback on the proposed activities. • Woodside has provided Shire of Derby/West Kimberley with the opportunity to provide feedback over a 28-month period.		

Shire of East Pilbara

Summary of information provided and record of consultation for this EP: • On 02 October 2023, Woodside emailed Shire of East Pilbara advising of the proposed activity (Record of Consultation, reference 1.52) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 24 October 2023, Woodside sent a reminder email to Shire of East Pilbara following up on the proposed activity (Record of Consultation, reference 2.7).		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of East Pilbara for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Shire of East Pilbara on 2 October 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Shire of East Pilbara with the opportunity to provide feedback over a 25-month period.

Shire of Broome

Summary of information provided and record of consultation for this EP:

- On 18 September 2023, Woodside emailed Shire of Broome advising of the proposed activity (Record of Consultation, reference 1.21) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 22 September 2023, Shire of Broome responded to Woodside (SI Report, reference 65.1) and:
 - (1) Advised it had no comment on the proposal due to the significant distance from Broome.
 - (2) Noted it looked forward to receiving referrals related to proposals closer to Broome.
- On 5 October 2023, Woodside responding thanking Shire of Broome for its email (SI Report, reference 65.2). Woodside:
 - (1) Noted Shire of Broome had no comment on the EP.
 - (2) Confirmed it would continue to consult the Shire on activities closer to Broome.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Due to the distance from Broome, the Shire had no comment on the proposal.	(1) Woodside assessment: Woodside accepts the Shire of Broome has no comments due to the distance from the Operational Area. Woodside response: Woodside noted the Shire of Broome had no comments on the proposal.	(1) Not required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

(2) The Shire looked forward to receiving referrals related to proposals closer to Broome.	(2) Woodside assessment: Woodside will continue to consult Shire of Broome where it is identified as a relevant person. Woodside feedback: Woodside confirmed it would continue to consult Shire of Broome on proposals closer to Broome.	(2) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Broome for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Shire of Broome on 18 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has addressed and responded to Shire of Broome over a 28-month period.		

Shire of Shark Bay

Summary of information provided and record of consultation for this EP:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 399 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 19 September 2023, Woodside emailed Shire of Shark Bay advising of the proposed activity (Record of Consultation, reference 1.29) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Shire of Shark Bay following up on the proposed activities (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 17 October 2023, Woodside met with the Shire of Shark Bay during a community information session in Denham. The discussion with the Shire included:
 - (1) An overview of this EP and its consultation process, noting that consultation was based on the EMBA and that no activities were planned in Shark Bay.
 - (2) The Shire advising it would provide a list of other potentially relevant persons to consult.
- On 18 October 2023, the Shire of Shark Bay emailed Woodside thanking it for the meeting (SI Report, reference 66.1). The Shire:
 - (2) Recommended a list of contacts in Shark Bay who might be interested in providing feedback on the proposed activity and expressed an interest in setting up a meeting with interested contacts in the future. Woodside has sent consultation information to these contacts.
 - (3) Provided advice on the best consultation channels for the broader Shark Bay community and advised that as a local government, Shire of Shark Bay could not post Woodside content on its website but could share graphics containing consultation information on its Facebook page on behalf of Woodside.
- On 20 October 2023, Woodside sent an email thanking Shire of Shark Bay for the meeting (SI Report, reference 66.2) and:
 - (2) Confirmed it would consult the stakeholders recommended by the Shire.
 - (3) Thanked the Shire for its advice on the best consultation methods for reaching the broader community.
 - (1) Provided further information, including links to the Consultation Information Sheet, for this EP and two separate Woodside EPs in which the Shire had shown interest.
 - (1) Explained the environment that may be affected (EMBA) and how it affected the Shire of Shark Bay for this EP and the separate Woodside EP.
 - (1) Confirmed Woodside looked forward to meeting with the Shire in the future.
- On 31 October 2023, Woodside sent an email to three Shire of Shark Bay representatives providing another overview of the proposed activity (Record of Consultation, reference 1.60).
- On 15 December 2023, Woodside sent a reminder email to three Shire of Shark Bay representatives following up on the proposed activity (Record of Consultation, reference 2.18) and provided a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Explanation of Woodside's consultation process, the activities associated with this EP, and the EMBA.	(1) Woodside assessment: Woodside welcomes engagement with the Shire of Shark Bay which has been assessed as a relevant person for this EP. Woodside response: Woodside provided an explanation of the EP, EMBA and consultation process during a discussion with Shire	(1) Not required.

	of Shark Bay at a community information session. Woodside had previously provided consultation information to the Shire via email, and, following the meeting, Woodside emailed consultation information to additional Shark Bay representatives.	
(2) Provided a list of contacts who may be interested in providing feedback on the activities proposed in this EP.	(2) Woodside assessment: Woodside reviewed the Shire of Shark Bay's feedback regarding potentially relevant persons for this EP and provided consultation information to those stakeholders. Woodside response: Woodside confirmed it would provide consultation information to the stakeholders recommended by Shire of Shark Bay.	(2) Woodside updated its Assessment of Relevance (see Appendix F, Table 1) to include the stakeholders Shire of Shark Bay identified as potentially relevant.
(3) Provided advice on consultation channels for Shark Bay.	(3) Woodside assessment: Woodside notes Shire of Shark Bay's advice on consultation channels for the community and will incorporate this approach into future EPs where relevant. Woodside response: Woodside noted Shire of Shark Bay's advice for the best consultation channels for the broader community and will action this approach for consultation on future EPs where relevant.	(3) Not required.
(4) Advised it could share Woodside consultation graphics on its Facebook page.	(4) Woodside assessment: Woodside notes the Shire of Shark Bay can share information on its Facebook page on behalf of Woodside. Woodside response: Woodside noted the Shire of Shark Bay's advice regarding sharing consultation information on Facebook on behalf of Woodside.	(4) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Shark Bay for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Shire of Shark Bay on 19 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has addressed and responded to Shire of Shark Bay over a 28-month period.

City of Greater Geraldton**Summary of information provided and record of consultation for this EP:**

- On 19 September 2023, Woodside emailed City of Greater Geraldton advising of the proposed activity (Record of Consultation, reference 1.29) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to City of Greater Geraldton following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with City of Greater Geraldton for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to City of Greater Geraldton based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided City of Greater Geraldton with the opportunity to provide feedback over 26-month period.

Shire of Augusta Margaret River

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, Woodside emailed Shire of Augusta Margaret River advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Shire of Augusta Margaret River following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Augusta Margaret River for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 403 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Shire of Augusta Margaret River on 21 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow up seeking feedback on the proposed activities.
- Woodside has provided Shire of Augusta Margaret River with the opportunity to provide feedback over a 28-month period.

Shire of Chapman Valley

Summary of information provided and record of consultation for this EP:

- On 19 September 2023, Woodside emailed Shire of Chapman Valley advising of the proposed activity (Record of Consultation, reference 1.29) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Shire of Chapman Valley following up on the proposed activity (Record of Consultation, reference 2.1).
- On 26 February 2025, Woodside emailed Shire of Chapman Valley a consultation update on this EP (Record of Consultation, reference 3.19). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with Shire of Chapman Valley. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 19 March 2025, Woodside sent a reminder email to Shire of Chapman Valley following up on the proposed activity (Record of Consultation, reference 4.6). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Chapman Valley for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 404 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Shire of Chapman Valley on 19 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent follow-up emails seeking feedback on the proposed activities.
- Woodside has provided Shire of Chapman Valley with the opportunity to provide feedback over a 28-month period.

Shire of Dandaragan

Summary of information provided and record of consultation for this EP:

- On 19 September 2023, Woodside emailed Shire of Dandaragan advising of the proposed activity (Record of Consultation, reference 1.29) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Shire of Dandaragan following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Dandaragan for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 405 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Consultation Information provided to Shire of Dandaragan on 19 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Shire of Dandaragan with the opportunity to provide feedback over a 28-month period.

Shire of Gingin

Summary of information provided and record of consultation for this EP:

- On 19 September 2023, Woodside emailed Shire of Gingin advising of the proposed activity (Record of Consultation, reference 1.29) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Shire of Gingin following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Gingin for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Shire of Gingin on 19 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 406 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Woodside has provided Shire of Gingin with the opportunity to provide feedback over a 28-month period.

Shire of Northampton

Summary of information provided and record of consultation for this EP:

- On 19 September 2023, Woodside emailed Shire of Northampton advising of the proposed activity (Record of Consultation, reference 1.29) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Shire of Northampton following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Northampton for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Shire of Northampton on 19 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Shire of Northampton with the opportunity to provide feedback over a 28-month period.

Shire of Christmas Island

Summary of information provided and record of consultation for this EP:

- On 19 September 2023, Woodside emailed Shire of Christmas Island advising of the proposed activity (Record of Consultation, reference 1.29) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Shire of Christmas Island following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 25 October 2023, Woodside emailed Shire of Christmas Island to provide details for its contact for First Nations Peoples and seek contact details for the Christmas Island Malay Peoples (SI Report, reference 67.1).
- On 2 November 2023, Woodside sent a follow-up email regarding contacts for the Christmas Island Malay Peoples and explaining its intention to provide an overview of Woodside Energy and its projects to the community and broader Shire (SI Report, 67.2).
- On 3 November 2023, Woodside had a phone call with Shire of Christmas Island to discuss consultation opportunities (SI Report, 67.3). During the discussion:
 - Woodside provided an overview of role responsibilities and points of contact with First Nations communities and Corporations in WA and NT.
 - Woodside discussed the recent changes to consultation and engagement as a result of the Santos Tiwi Island matter.
 - The Shire provided history and context about the island and Shire roles.
 - (1) The Shire noted it was unaware of prior correspondence regarding this EP.
 - Woodside explained the process for determining the EMBA for this EP and confirmed why Christmas Island had been consulted.
 - (2) The Shire noted it appreciated and supported Woodside's methodology for identifying and including First Nations stakeholder input.
 - (3) The Shire identified other Malay and Chinese contacts that Woodside should consider including in future engagements where relevant.
 - (4) The Shire welcomed the opportunity for a potential meeting with Woodside on Christmas Island and provided information about flight availability.
- On 3 November 2023, Woodside sent an email in follow-up to the phone call (SI Report, reference 67.4). Woodside noted:
 - (1) It wanted to ensure Shire of Christmas Island had an opportunity to hear about Woodside Energy projects in the region and to take feedback.
 - (2) It appreciated the engagement with the Shire and its support for Woodside's methodology.
 - (3) Its approach to consultation in line with Regulation 25 including changes in relation to First Nations groups following recent court matters.
 - (4) Potential opportunities to meet with Shire of Christmas Island during November or December.
- On 3 November 2023, Shire of Christmas Island responded thanking Woodside for its email (SI Report, reference 67.5) and:
 - (4) Provided information about flight availability to Christmas Island during December for a potential meeting.
 - (1) Advised it had checked previous correspondence between Woodside and Christmas Island and noted a series of emails for licenced fishers about a separate Woodside drilling project earlier in 2023.

- On 6 November 2023, Woodside responded thanking Shire of Christmas Island for its email and advised it was also looking to organise a consultation session with Cocos (Keeling) Islands (SI Report, reference 67.6).
- On 6 November 2023, the Shire of Christmas Island responded and confirmed flights were available from Christmas Island to Cocos (Keeling) Islands (SI Report, reference 67.7).
- On 15 December 2023, Woodside emailed Shire of Christmas Island's Fisheries Management Committee (FMC) advising of the proposed activity (Record of Consultation, reference 1.102) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure Consultation on offshore petroleum environment plans: Information for the community.
- On 9 January 2024, Woodside sent a reminder email to the Shire's FMC following up on the proposed activity (Record of Consultation, reference 2.19) and included a link to the Consultation Information Sheet on Woodside's website.
- On 19 January 2024, the FMC responded thanking Woodside for the opportunity to provide feedback (SI Report, reference 67.8). The FMC:
 - **(5)** Stated its experience of emergency communications in the external Indian Ocean Territories (IOTs) during times of widespread natural disasters that impacted the WA coastline and IOTs simultaneously was less than satisfactory, and advised it would like to submit to Woodside that dedicated communication, care and mitigation plans needed to be committed to for Christmas Island and the neighbouring Cocos (Keeling) Islands.
 - **(6)** Noted that while the mainland had a larger population and potentially greater economic impact from a significant failure at the facility, the livelihoods of residents in the external territories also needed careful consideration, and the recent 2022 declaration of the Christmas Island and Cocos (Keeling) Islands Marine Parks further underscored the importance of addressing the unique concerns and circumstances of the external territories. The FMC further stated it would welcome a dedicated emergency plan from Woodside for the IOT territories of Christmas Island and Cocos (Keeling) Islands and would like to underline the dramatic effect on life on the islands in the event their waters sustained effects from an unwanted event at the Woodside facilities. The FMC asked that mitigation plans be discussed and workshopped with relevant stakeholders in the Commonwealth, local government and emergency services in the IOTs to ensure a planned response was on file.
- On 5 February 2024, Woodside phoned the Shire of Christmas Island following up on discussions regarding a potential meeting (SI Report, reference 67.9). The Shire advised that it had provided written feedback via its FMC. Woodside thanked the Shire and confirmed it would respond to the Shire via its FMC.
- On 12 February 2024, Woodside responded thanking the Shire's FMC for its correspondence and for seeking clarification on oil spill responses (SI Report, reference 67.10). Woodside:
 - **(5)** Confirmed its process for oil spill response planning included the following steps:
 - Assess the credible spill risk for the activity.
 - Establish areas that may be contacted by an oil spill based on the outputs of computer simulation modelling, which use credible spill information together with weather and oceanographic data.
 - Select appropriate oil spill response clean-up methods for the credible spill event.
 - Develop an activity-specific Oil Pollution First Strike Plan to set out the steps to take if an oil spill does occur.
 - Regularly test, train and assure the First Strike Plan.

- (5) Advised that for Pyrenees operations, the computer oil spill simulation modelling predicted a minimum contact time at Christmas Island of 44 days in the event of a highly unlikely oil spill. This was considered to be a significant lead time to mount appropriate spill response measures.
- (5) Noted that while oil spill response within the IOTs fell under the jurisdiction of AMSA, Woodside would make resources available to the response effort via oil spill response contractors and that Woodside maintained an equipment stockpile and trained staff on the mainland that could be deployed if required during a spill event.
- (6) Advised that Woodside, together with other Australian energy companies, had developed a suite of site-specific 'tactical response plans' (TRPs) which were shared across the industry. Woodside noted:
 - The plans provided information on suitable clean-up equipment required closest stockpiles, local infrastructure, specific sensitivities, and other pertinent information to improve efficiency during a spill.
 - As a result of FMC's feedback, Woodside had sought advice from an oil spill contractor on the development of a TRP appropriate for Christmas Island and understood a request had also been made for the contractor to develop a TRP for Cocos (Keeling) Islands.
 - Woodside would provide an update to FMC once it had received information from the oil spill contractor on an appropriate way forward for the Christmas Island TRP and may seek inputs for the TRP's development.
- (6) Advised that further to the proposed TRPs for Christmas and Cocos (Keeling) Islands, it could add a relevant contact for Christmas and Cocos (Keeling) Islands into the notifications table within the First Strike Plan for this activity, which would ensure timely notifications were made to relevant parties if a spill event occurred that risked contacting Christmas and Cocos (Keeling) Islands. Woodside asked that if this would be considered useful, the FMC provide relevant contact information.
- (2, 3) Sought additional advice on whether further consultation with Christmas Island's Malay community was requested. Woodside noted that a member of its First Nations Engagement team had received advice that the point of contact for the Malay community and the FMC were the same.
- On 11 June 2024, Woodside emailed the Shire's FMC and attached a copy of the newly developed TRP for Christmas Island ((SI Report, reference 67.11). Woodside:
 - (6) Recapped that Woodside, together with other Australian energy companies, had a suite of site-specific 'tactical response plans' (TRPs) which were shared across the industry.
 - (6) Advised that as a result of the FMC's feedback, Woodside had approached the oil spill contractor and a TRP had now been developed for Christmas Island.
 - (6) Provided an overview of the contents of the TRP and confirmed a copy of the TRP was also attached.
 - (6) Noted that it understood the oil spill contractor had also been approached regarding the development of a TRP for Cocos (Keeling) Islands.
- On 11 June 2024, Shire of Christmas Island responding thanking Woodside for forwarding the TRP for Christmas Island (SI Report, reference 67.12). The Shire:
 - (7) Suggested an update to the Area Description and Site Location details in the TRP, based on:
 - The Minister for Environment gazetted the Christmas Island Marine National Park in 2022, and while the draft management plan was still to finalised, zones had been determined.
 - The current Area Description only included the terrestrial national park and should be updated to include the marine park.

- On 14 June 2024, Woodside responded thanking the Shire for its feedback (SI Report, reference 67.13). Woodside:
 - (7) Confirmed it had updated the TRP to include the marine national park in the area description and site location sections.
 - (7) Attached a copy of the updated TRP.
- (7) On 14 June 2024, Shire of Christmas Island responded to confirm it had received the update (SI Report, reference 67.14). (7) Woodside noted the Shire had received the updated version of the TRP.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) The Shire advised it was unaware of Woodside consultation correspondence related to this EP prior to a phone call from Woodside on 3 November 2023, but had seen a series of emails for fishery licence holders regarding a separate Woodside EP earlier in 2023.	(1) Woodside assessment: Woodside has provided sufficient information to Shire of Christmas Island in line with regulation 25(2) of the Environment Regulations but notes the Shire's preference for phone or face-to-face consultation in future. Woodside response: Woodside noted Shire of Christmas Island's feedback that it had not seen the email correspondence regarding this EP and that the Shire appreciated Woodside's phone call regarding the proposed activity and welcomed the opportunity to meet in-person to discuss Woodside Energy projects.	(1) Not required.
(2) Support for Woodside's methodology for identifying and including First Nations stakeholder input.	(2) Woodside assessment: Woodside welcomes engagement with the Shire and First Nations groups on Christmas Island. Woodside response: Woodside noted the Shire's support for its methodology and efforts in identifying and seeking input from First Nations stakeholders.	(2) Not required.
(3) Identification of Malay and Chinese communities on Christmas Island that Woodside should consider engaging for future EPs.	(3) Woodside assessment: Woodside complies with regulation 25 of the Environment Regulations in regard to the consultation process. For this EP, the Malay community of Christmas Island has been assessed as not a relevant person based on its functions, interests or activities, although Woodside chose to seek to contact the organisation at its discretion in line with Section 5.3.7. Woodside response: Woodside noted the Shire's advice regarding Malay and Chinese communities on Christmas Island who may be interested in providing feedback on Woodside activities in the future and advised it would consider the additional stakeholders during	(3) Woodside has assessed the relevancy of the Malay community of Christmas Island in Appendix F, Table 1 of the EP.

	relevancy assessments for future EPs. As part of ongoing consultation, Woodside would also continue to consult following acceptance of this EP.	
(4) Opportunity welcomed for a potential meeting with Woodside and provided information about flight schedules and bookings.	(4) Woodside assessment: Woodside welcomes the opportunity to consult with the Shire regarding Woodside activities and accepts feedback throughout the life of an EP. Woodside response: Woodside confirmed it would like to ensure Christmas Island had an opportunity to hear about Woodside Energy projects and would work towards dates in late November or December for a potential meeting.	(4) As identified in Section 7.15 off this EP, Woodside will continue to consult following acceptance of the EP, as requirement by the implementation strategy as set out regulation 22(15) of the Environment Regulations.
(5) The Shire's Fishing Management Committee (FMC) described its experience of emergency communications during natural disasters as less than satisfactory and advised it would like to submit to Woodside that dedicated communication, care and mitigation plans needed to be committed to for Christmas Island.	(5) Woodside assessment: Woodside's hydrocarbon release simulation modelling predicts a minimum contact time at Christmas Island of 44 days which provides a significant lead time to mount appropriate spill response measures. Woodside response: Woodside assessed the feedback from the FMC and provided an explanation of its process for oil spill response planning. Woodside advised that in the highly unlikely event of an oil spill, simulation modelling predicted a minimum contact time at Christmas Island of 44 days, which was considered to be significant lead time to mount appropriate spill response measures. Woodside noted that while oil spill response in the IOTs fell under the jurisdiction of AMSA, Woodside would make resources available to the response effort. Woodside confirmed it maintained an equipment stockpile and trained staff on the mainland that could be deployed if required.	(5) Woodside's process for identifying potential response options for hydrocarbon release scenarios is described in the OSPRMA (Appendix H).
(6) The FMC noted that the livelihoods of residents in the external territories needed careful and unique consideration and stated it would welcome a dedicated emergency plan from Woodside for Christmas Island.	(6) Woodside assessment: Woodside sought advice from an oil spill contractor on the development of a response plan for Christmas Island and the plan has now been developed. Woodside response: As a result of FMC's feedback, Woodside confirmed it would seek advice from an oil spill response contractor on the development of a TRP for Christmas Island. Woodside advised it would provide an update to the FMC once it received information on an appropriate way forward for the Christmas Island	(6) At FMC's discretion, Woodside will include a relevant Christmas Island contact in the notification table for the Oil Pollution First Strike Plan for this activity (Appendix I).

	TRP. In June 2024, Woodside forwarded a copy of the newly developed TRP to the FMC. Woodside also advised it could include relevant contacts in its First Strike Plan, and for Christmas Island to provide contact information if this would be useful.	
(7) Requested an update to the Christmas Island TRP to include the recently gazetted marine national park in the area description.	(7) Woodside assessment: Woodside agrees it is important to update the area description in the TRP to include the marine national park. Woodside response: Woodside confirmed it had updated the area description and site location sections of the TRP to include the marine national park. Woodside provided a copy of the updated TRP to the Shire.	(7) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Christmas Island for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Shire of Christmas Island on 19 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>.		

- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has addressed and responded to Shire of Christmas Island over a 28-month period.

City of Busselton

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, Woodside emailed City of Busselton advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to City of Busselton advising of the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with City of Busselton for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to City of Busselton on 21 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided City of Busselton with the opportunity to provide feedback over a 28-month period.

Shire of Carnamah

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, Woodside emailed Shire of Carnamah advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Shire of Carnamah following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Carnamah for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Shire of Carnamah on 21 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Shire of Carnamah with the opportunity to provide feedback over a 28-month period.

City of Cockburn

Summary of information provided and record of consultation for this EP:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 21 September 2023, Woodside emailed City of Cockburn advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, City of Cockburn sent a reminder email to City of Cockburn following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with City of Cockburn for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to City of Cockburn on 21 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided City of Cockburn with the opportunity to provide feedback over a 28-month period.		

Shire of Coorow

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, Woodside emailed Shire of Coorow advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 18 October 2023, Woodside sent a reminder email to Shire of Coorow following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Coorow for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Shire of Coorow on 21 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Shire of Coorow with the opportunity to provide feedback over a 28-month period.

Shire of Harvey

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 21 September 2023, Woodside emailed Shire of Harvey advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet.
- On 18 October 2023, Woodside sent a reminder email to Shire of Harvey following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 17 February 2025, Woodside emailed Shire of Harvey a consultation update on this EP (Record of Consultation, reference 3.3). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with Shire of Harvey. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 10 March 2025, Woodside sent a reminder email to Shire of Harvey following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Harvey for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to Shire of Harvey on 21 September 2023 and 17 February 2025 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided Shire of Harvey with the opportunity to provide feedback over a 28-month period.		

Shire of Irwin

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, Woodside emailed Shire of Irwin advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Shire of Irwin following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Irwin for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Shire of Irwin on 21 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has provided Shire of Irwin with the opportunity to provide feedback over a 28-month period.

City of Joondalup

Summary of information provided and record of consultation for this EP:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 419 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 21 September 2023, Woodside emailed City of Joondalup advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to City of Joondalup following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with City of Joondalup for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to City of Joondalup on 21 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided City of Joondalup with the opportunity to provide feedback over a 28-month period.		

City of Mandurah

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, Woodside emailed City of Mandurah advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 18 October 2023, Woodside sent a reminder email to City of Mandurah following up on the proposed activities (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with City of Mandurah for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to City of Mandurah on 21 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided City of Mandurah with the opportunity to provide feedback over a 28-month period.		

Shire of Manjimup

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, Woodside emailed Shire of Manjimup advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Shire of Manjimup following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Manjimup for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Shire of Manjimup on 21 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Shire of Manjimup with the opportunity to provide feedback over a 28-month period.		

City of Rockingham

Summary of information provided and record of consultation for this EP: • On 21 September 2023, Woodside emailed City of Rockingham advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 18 October 2023, Woodside sent a reminder email to City of Rockingham following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan

No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with City of Rockingham for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to City of Rockingham on 21 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided City of Rockingham with the opportunity to provide feedback over a 28-month period.		

City of Wanneroo

Summary of information provided and record of consultation for this EP:		
• On 21 September 2023, Woodside emailed City of Wanneroo advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 18 October 2023, Woodside sent a reminder email to City of Wanneroo following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with City of Wanneroo for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to City of Wanneroo on 21 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided City of Wanneroo with the opportunity to provide feedback over 26-month period.		

Shire of Waroona

Summary of information provided and record of consultation for this EP:		
• On 21 September 2023, Woodside emailed Shire of Waroona advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 18 October 2023, Woodside sent a reminder email to Shire of Waroona following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website. • On 26 February 2025, Woodside emailed Shire of Waroona a consultation update on this EP (Record of Consultation, reference 3.19). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with Shire of Waroona. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA. • On 19 March 2025, Woodside sent a reminder email to Shire of Waroona following up on the proposed activity (Record of Consultation, reference 4.6). Woodside included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Shire of Waroona for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Shire of Waroona on 21 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent follow-up emails seeking feedback on the proposed activities. • Woodside has provided Shire of Waroona with the opportunity to provide feedback over a 28-month period.		

Exmouth Community Liaison Group (Exmouth CLG)

Summary of information provided and record of consultation for this EP: • On 18 September 2023, Woodside emailed Exmouth CLG advising of the proposed activity (Record of Consultation, reference 1.25) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 16 October 2023, Woodside sent a reminder email to Exmouth CLG following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website. • On 21 November 2023, Woodside presented to Exmouth CLG meeting on a range of Woodside activities, including this EP. Woodside presented a slide which listed EPs on which the Exmouth CLG members had recently been consulted (SI Report, reference 74.1). The slide included a QR code and URL to the Consultation Activities page of the Woodside website. 12 individuals attended the meeting, representing: Exmouth Volunteer Marine Rescue; Gascoyne Development Commission; Shire of Exmouth; PHI Helicopters; Bhagwan Marine; Exmouth Chamber of Commerce and Industry; Ningaloo Coast World Heritage Advisory Council; Australia's Coral Coast Tourism; Santos. No feedback was received regarding this specific EP. – On 4 December 2023, Woodside's presentation was emailed to the Exmouth CLG regardless of whether they attended the meeting.
--

- On 17 July 2024, Woodside presented to the Exmouth CLG on Woodside activities, including this EP. Woodside presented a slide listing EPs on which the CLG members had recently been consulted and EPs currently under consultation (SI Report, reference 74.2).
 - No feedback was provided on this EP.
 - 13 individuals attended the meeting representing: Exmouth Volunteer Marine Rescue; Gascoyne Development Commission; Shire of Exmouth; PHI Helicopters; Exmouth Chamber of Commerce and Industry; Ningaloo Coast World Heritage Advisory Council / NOPSEMA Community and Environment Reference Group; Santos; AIMS; Department of Health.
 - No questions were raised by CLG members in attendance at the meeting.
 - In August 2024, Woodside's presentation was emailed to the CLG members, regardless of their attendance at the meeting.
- On 12 November 2024, Woodside presented to the Exmouth CLG on Woodside activities, including this EP. Woodside presented a slide listing EPs on which the CLG members had recently been consulted and EPs currently under consultation (SI Report, reference 74.3).
 - No feedback was provided on this EP.
 - 13 individuals attended the meeting representing: Shire of Exmouth, Gascoyne Development Commission; Exmouth Chamber of Commerce and Industry; Ningaloo Coast World Heritage Advisory Council / NOPSEMA Community and Environment Reference Group; West Australian Country Health Service; Bhagwan Marine; PHI Helicopters; Exmouth Volunteer Marine Rescue; CSIRO; Santos.
 - On 2 December 2024, Woodside's presentation was emailed to the CLG members, regardless of their attendance at the meeting.
- On 13 March 2025, Woodside presented to the Exmouth CLG on EP consultation requirements and Woodside activities, including activities for this EP (SI Report, reference 74.4).
 - Woodside presented slides on how it consults relevant persons in the course of preparing EPs and provided information on relevant persons and EMBA's.
 - The slides included a QR code and a URL for the Consultation Activities page of the Woodside website. Copies of the latest edition of Let's Talk were provided in hard copy and sent electronically with the minutes and slide pack.
 - listing EPs on which the CLG members had recently been consulted and EPs currently under consultation.
 - 7 individuals attended the meeting representing:
 - Shire of Exmouth
 - Gascoyne Development Commission
 - Exmouth Chamber of Commerce and Industry
 - Australia's Coral Coast/Regional Development Authority
 - Ningaloo Coast World Heritage Advisory Council / NOPSEMA Community and Environment Reference Group Exmouth community
 - West Australian Country Health Service
 - Bhagwan Marine
 - PHI Helicopters

- Exmouth Volunteer Marine Rescue
 - CSIRO
 - Santos.
- No feedback was provided for this EP.
- On 22 April 2025, Woodside's presentation was emailed to the CLG members, regardless of their attendance at the meeting.
- On 26 June 2025, Woodside presented to the Exmouth CLG on EP consultation requirements and Woodside activities, including activities for this EP (SI Report, reference 74.5).
 - Woodside presented slides on how it consults relevant persons in the course of preparing EPs and provided information on relevant persons and EMBA's.
 - Woodside also discussed the Pyrenees EP, noting that the CLG had previously been consulted on the EP. Woodside advised that some additional consultation had also taken place due to additional modelling completed during the development of the EP. Woodside noted it continued to accept feedback throughout the life of an EP and provided a QR code and a URL for the Consultation Activities page of the Woodside website for any members wishing to provide feedback on Pyrenees or other EPs.
 - 7 individuals attended the meeting representing:
 - Shire of Exmouth
 - Exmouth Chamber of Commerce and Industry
 - Australia's Coral Coast/Regional Development Authority
 - PHI Helicopters
 - Local councillor
 - St John Exmouth Subcentre
 - Exmouth Freight and Logistics
 - Santos.
 - No feedback was provided for this EP.
- On 10 July 2025, Woodside's presentation was emailed to the CLG members, regardless of their attendance at the meeting.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Exmouth CLG for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Exmouth CLG on 18 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided the Exmouth CLG with the opportunity to provide feedback over 23-month period.

Karratha Community Liaison Group (Karratha CLG)

Summary of information provided and record of consultation for this EP:

- On 18 September 2023, Woodside emailed Karratha CLG advising of the proposed activity (Record of Consultation, reference 1.26) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 29 September 2023, Woodside presented to the Karratha CLG meeting on a range of Woodside activities, including this EP. Woodside presented a slide which listed EPs which Woodside was currently consulting on (SI Report, reference 75.1). The slide included a QR code and URL to the Consultation Activities page of the Woodside website. 14 individuals attended the meeting: City of Karratha (council and staff representatives); Karratha Central Health Care; Bechtel; Dampier Community Association; Regional Development Australia; Karratha & Districts Chamber of Commerce and Industry; Ngarluma Yindjibarndi Foundation Ltd; Pilbara Ports. No feedback was received regarding this specific EP.
- On 16 October 2023, Woodside sent a reminder email to Karratha CLG following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 24 November 2023, Woodside presented to Karratha CLG meeting on a range of Woodside activities, including this EP. Woodside presented a slide which listed EPs on which the CLG members had recently been consulted (SI Report, reference 75.2). The slide included a QR code and URL to the Consultation Activities page of the Woodside website. Five individuals attended the meeting, representing: City of Karratha (staff representatives); Dampier Community Association; Ngarluma Yindjibarndi Foundation Ltd; Department of Education. No feedback was received regarding this specific EP.
- On 21 June 2024, Woodside presented to the Karratha CLG on EP consultation requirements and provided an update on Woodside activities, including reference to this EP (SI report, reference 75.3).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- No feedback was provided on this EP.
 - Woodside also presented on how Woodside consults relevant persons in the course of preparing EPs and provided information on relevant persons and EMBAs. The slides included a QR code and a URL to the Consultation Activities page of the Woodside website. Copies of the latest edition of Let's Talk were provided in hard copy and also sent electronically with the minutes and pack.
 - 7 CLG members attended the meeting representing: City of Karratha – Council representatives and staff representatives; Karratha Central Health Care; Dampier Community Association; Pilbara Development Commission; Department of Education – staff representatives.
- On 17 July 2024, Woodside's June presentation to the CLG was emailed to the CLG regardless of their attendance at the meeting.
- On 20 March 2025, Woodside presented to the Karratha CLG on EP consultation requirements and Woodside activities (SI Report, reference 75.4).
 - Woodside presented slides on how it consults relevant persons in the course of preparing EPs and provided information on relevant persons and EMBAs. Woodside included the Pyrenees EP on a slide of EPs the CLG had previously been consulted on. The slides included a QR code and a URL for the Consultation Activities page of the Woodside website.
 - 9 CLG members attended the meeting representing:
 - City of Karratha
 - Department of Education
 - Murujuga Aboriginal Corporation
 - Department of Communities
 - Development WA
 - Dampier Community Association
 - Karratha Central Healthcare
 - Karratha & Districts Chamber of Commerce and Industry
 - Community member
 - No feedback was provided for this EP.
- On 20 June 2025, Woodside presented to the Karratha CLG on EP consultation requirements and Woodside activities, including activities for this EP (SI Report A, reference 75.5).
 - Woodside presented slides on how it consults relevant persons in the course of preparing EPs and provided information on relevant persons and EMBAs. Woodside provided an overview of EPs currently open for consultation as well as a list of EPs which had recently been consulted on, including this EP.
 - The slides included a QR code and a URL for the Consultation Activities page of the Woodside website.
 - 9 CLG members attended the meeting representing:
 - City of Karratha
 - Department of Education

▪ Murujuga Aboriginal Corporation ▪ Department of Communities ▪ Development WA ▪ Dampier Community Association ▪ Karratha Central Healthcare ▪ Karratha & Districts Chamber of Commerce and Industry ▪ Community member. – No feedback was provided for this EP.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Karratha CLG for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Karratha CLG on 18 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Karratha CLG with the opportunity to provide feedback over a 28-month period.		

Onslow Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:

- On 15 September 2023, Woodside emailed Onslow Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.16) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Onslow Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Onslow Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Onslow Chamber of Commerce and Industry on 15 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided the Onslow Chamber of Commerce and Industry with the opportunity to provide feedback over 26-month period.

Port Hedland Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:

- On 18 September 2023, Woodside emailed Port Hedland Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.27) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to Port Hedland Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Port Hedland Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Port Hedland Chamber of Commerce and Industry on 18 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Port Hedland Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.

Carnarvon Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 18 September 2023, Woodside emailed Carnarvon Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.23) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Carnarvon Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Carnarvon Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to Carnarvon Chamber of Commerce and Industry on 18 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided Carnarvon Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.		

Karratha and Districts Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP: On 27 September 2023, Woodside emailed Karratha and Districts Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.49) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>.
--

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 17 October 2023, Woodside sent a reminder email to Karratha and Districts Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Karratha and Districts Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Karratha and Districts Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Karratha and Districts Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.

Exmouth Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:

- On 27 September 2023, Woodside emailed Exmouth Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.50) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

On 18 October 2023, Woodside sent a reminder email to Exmouth Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Exmouth Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to Exmouth Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided Exmouth Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.		

East Kimberley Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP and the other operations EP: - On 18 September 2023, Woodside emailed East Kimberley Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.28) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to East Kimberley Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
--

- On 17 February 2025, Woodside emailed East Kimberley Chamber of Commerce and Industry a consultation update on this EP (Record of Consultation, reference 3.3). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with East Kimberley Chamber of Commerce and Industry. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 10 March 2025, Woodside sent a reminder email to East Kimberley Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with East Kimberley Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to East Kimberley Chamber of Commerce and Industry on 18 September 2023 and 17 February 2025 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent follow-up emails seeking feedback on the proposed activities. - Woodside has provided East Kimberley Chamber of Commerce with the opportunity to provide feedback over 26-month period.		

Derby Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP and the other operations EP:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 436 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 18 September 2023, Woodside emailed Derby Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.28) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Derby Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 17 February 2025, Woodside emailed Derby Chamber of Commerce and Industry a consultation update on this EP (Record of Consultation, reference 3.3). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with Derby Chamber of Commerce and Industry. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 10 March 2025, Woodside sent a reminder email to Derby Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcome of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Derby Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Derby Chamber of Commerce and Industry on 18 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent follow-up emails seeking feedback on the proposed activities.
- Woodside has provided Derby Chamber of Commerce with the opportunity to provide feedback over 26-month period.

Broome Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:

- On 18 September 2023, Woodside emailed Broome Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.22) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Broome Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Broome Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Broome Chamber of Commerce and Industry on 18 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Broome Chamber of Commerce with the opportunity to provide feedback over 26-month period.

Mid West Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 18 September 2023, Woodside emailed Mid West Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.28) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 16 October 2023, Woodside sent a reminder email to Mid West Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Mid West Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to Mid West Chamber of Commerce and Industry on 18 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided Mid West Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.		

Margaret River Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP: On 27 September 2023, Woodside emailed Margaret River Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>.
--

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 16 October 2023, Woodside sent a reminder email to Margaret River Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Margaret River Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to Margaret River Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided Margaret River Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.		

Jurien Bay Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:

- On 27 September 2023, Woodside emailed Jurien Bay Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

On 18 October 2023, Woodside sent a reminder email to Jurien Bay Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Jurien Bay Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: - Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. - Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. - Consultation Information provided to Jurien Bay Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities. - Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - Woodside has sent a follow-up email seeking feedback on the proposed activities. - Woodside has provided Jurien Bay Chamber of Commerce and Industry with the opportunity to provide feedback over a 25-month period.		

Lancelin Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP: - On 27 September 2023, Woodside emailed Lancelin Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Lancelin Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.
--

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Lancelin Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Lancelin Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Lancelin Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.		

Busselton Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP: • On 27 September 2023, Woodside emailed Busselton Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 18 October 2023, Woodside sent a reminder email to Busselton Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Busselton Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Busselton Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Busselton Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.		

Dunsborough Yallingup Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:		
• On 27 September 2023, Woodside emailed Dunsborough Yallingup Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 18 October 2023, Woodside sent a reminder email to Dunsborough Yallingup Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Dunsborough Yallingup Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Dunsborough Yallingup Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Dunsborough Yallingup Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.		

Melville Cockburn Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:		
• On 27 September 2023, Woodside emailed Melville Cockburn Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 18 October 2023, Woodside sent a reminder email to Melville Cockburn Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Melville Cockburn Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically: • Consultation Information Sheet publicly available on the Woodside website since 12 September 2023. • Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback. • Consultation Information provided to Melville Cockburn Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities. • Woodside has provided a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • Woodside has sent a follow-up email seeking feedback on the proposed activities. • Woodside has provided Melville Cockburn Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.		

Peel Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:		
• On 27 September 2023, Woodside emailed Peel Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 18 October 2023, Woodside sent a reminder email to Peel Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Peel Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Peel Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Peel Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.

Rockingham Kwinana Chamber of Commerce and Industry**Summary of information provided and record of consultation:**

- On 27 September 2023, Woodside emailed Rockingham Kwinana Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Rockingham Kwinana Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of Consultation

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Rockingham Kwinana Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Rockingham Kwinana Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Rockingham Kwinana Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.

Manjimup Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:

- On 27 September 2023, Woodside emailed Manjimup Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Manjimup Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Manjimup Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Manjimup Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Manjimup Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.

Augusta Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:

- On 27 September 2023, Woodside emailed Augusta Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Augusta Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Augusta Chamber of Commerce and Industry for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.
- Consultation Information provided to Augusta Chamber of Commerce and Industry on 27 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Augusta Chamber of Commerce and Industry with the opportunity to provide feedback over a 28-month period.

Christmas Island Business Association

Summary of information provided and record of consultation for this EP:

- On 15 December 2023, Woodside emailed Christmas Island Business Association advising of the proposed activity (Record of Consultation, reference 1.101) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 9 January 2024, Woodside sent a reminder email to Christmas Island Business Association following up on the proposed activity (Record of Consultation, reference 2.19) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Christmas Island Business Association for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 449 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Christmas Island Business Association on 15 December 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Christmas Island Business Association with the opportunity to provide feedback over a 25-month period.

Indian Ocean Territories Regional Development Organisation

Summary of information provided and record of consultation for this EP:

- On 15 December 2023, Woodside emailed Indian Ocean Territories Regional Development Organisation advising of the proposed activity (Record of Consultation, reference 1.101) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 9 January 2024, Woodside sent a reminder email to Indian Ocean Territories Regional Development Organisation following up on the proposed activity (Record of Consultation, reference 2.19) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Indian Ocean Territories Regional Development Organisation for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Indian Ocean Territories Regional Development Organisation on 15 December 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Indian Ocean Territories Regional Development Organisation with the opportunity to provide feedback over a 25-month period.

Research institutes and local conservation groups or organisations

Cape Conservation Group (CCG)

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, Woodside emailed Cape Conservation Group advising of the proposed activity (Record of Consultation, reference 1.35) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 17 October 2023, Woodside sent a reminder email to Cape Conservation Group following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Cape Conservation Group (CCG) for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 451 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

- Consultation Information provided to Cape Conservation Group on 21 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Cape Conservation Group with the opportunity to provide feedback over a 28-month period.

Protect Ningaloo

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, Woodside emailed Protect Ningaloo advising of the proposed activity (Record of Consultation, reference 1.35) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 17 October 2023, Woodside sent a reminder email to Protect Ningaloo following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has provided a reasonable period in which to receive feedback which is consistent with the intended outcome of consultation (see Section 5.4 of this EP). Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcomes of consultation

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and consultation with Protect Ningaloo for the purpose of regulation 25 is complete. Sufficient information and a reasonable period have been provided, as described in Section 5.4 of the EP. Specifically:

- Consultation Information Sheet publicly available on the Woodside website since 12 September 2023.
- Woodside published advertisements in a national, state and relevant local newspapers including The Australian, The West Australian, NT News, Pilbara News, North West Telegraph, Midwest Times, Manjimup-Bridgetown Times, Kalgoorlie Miner (13 September 2023), Broome Advertiser, South Western Times, Kimberley Echo, Albany Advertiser, Countryman, Narrogin Observer, Great Southern Herald, Harvey Waroona Reporter (14 September 2023) and Augusta Margaret River Times, Busselton Dunsborough Times, Geraldton Guardian (15 September 2023), Koori Mail (20 September 2023) and National Indigenous Times (26 September 2023) advising of the proposed activities and requesting feedback.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 452 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Consultation Information provided to Protect Ningaloo on 21 September 2023 based on their functions, interests or activities.
- Woodside has provided a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- Woodside has sent a follow-up email seeking feedback on the proposed activities.
- Woodside has provided Protect Ningaloo with the opportunity to provide feedback over a 28-month period.

Table 3: Engagement Report with Persons or Organisations Assessed as Not Relevant

Commonwealth and State Government Departments or Agencies

Southern Ports – Albany and Bunbury

Summary of information provided and record of consultation for this EP and the other operations EP: • On 21 September 2023, Woodside emailed Southern Ports – Albany and Bunbury advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. • On 18 October 2023, Woodside sent a reminder email to Southern Ports – Albany and Bunbury following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

While Southern Ports – Albany and Bunbury is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Southern Ports to provide feedback during the consultation process.

Port of Cocos (Keeling) Island

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 18 December 2023, Woodside emailed Port of Cocos (Keeling) Island advising of the proposed activity (Record of Consultation, reference 1.103) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 12 January 2024, Woodside sent a reminder email to Port of Cocos (Keeling) Island following up on the proposed activity (Record of Consultation, reference 2.20) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

While Port of Cocos (Keeling) Island is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Port of Cocos (Keeling) Island to provide feedback during the consultation process.

Commonwealth and State Government Departments or Agencies - Marine

Department of Industry, Tourism and Trade (DITT) – NT Fisheries

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 22 September 2023, Woodside emailed DITT – NT Fisheries advising of the proposed activity (Record of Consultation, reference 1.39) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

- On 16 October 2023, Woodside sent a reminder email to DITT – NT Fisheries following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.
- On 17 February 2025, Woodside emailed NT Fisheries a consultation update on this EP (Record of Consultation, reference 3.3). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with NT Fisheries. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 10 March 2025, Woodside sent a reminder email to NT Fisheries following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While DITT – NT Fisheries is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for DITT – NT Fisheries to provide feedback during the consultation process.		

Commonwealth commercial fisheries and representative bodies

Cocos (Keeling) Islands Marine Aquarium Fishery

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 3 October 2023, Woodside sent a letter to Cocos (Keeling) Islands Marine Aquarium Fishery advising of the proposed activity (Record of Consultation, reference 1.53) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 24 October 2023, Woodside sent a reminder letter to Cocos (Keeling) Islands Marine Aquarium Fishery following up on the proposed activity (Record of Consultation, reference 2.9) and included a QR code link to the Consultation Information Sheet on Woodside's website.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 455 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted AFMA, DAFF - Fisheries, CFA, and individual fishery licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	Woodside has assessed the potential for interaction with Commonwealth managed commercial fisheries issues in Section 4.10.1 of this EP. No additional measures or controls are required.
Outcomes of consultation		
While Cocos (Keeling) Islands Marine Aquarium Fishery is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Cocos (Keeling) Islands Marine Aquarium Fishery to provide feedback during the consultation process.		

Australian Southern Bluefin Tuna Industry Association (ASBTIA)

Summary of information provided and record of consultation for this EP: - On 3 October 2023, Woodside emailed ASBTIA advising of the proposed activity (Record of Consultation, reference 1.56) and provided a Consultation Information Sheet. - On 1 November 2023, Woodside sent a reminder email to ASBTIA following up on the proposed activity (Record of Consultation, reference 2.12) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted AFMA, DAFF - Fisheries, CFA and Tuna Australia. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	No additional measures or controls are required.

	Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
While ASBTIA is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for ASBTIA to provide feedback during the consultation process.		

Northern Territory commercial fisheries and representative bodies

Northern Territory Seafood Council (NTSC)

Summary of information provided and record of consultation for this EP and the other operations EP:		
- On 15 December 2023, Woodside emailed NTSC advising of the proposed activity (Record of Consultation, reference 1.102) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 9 January 2024, Woodside sent a reminder email to NTSC following up on the proposed activity (Record of Consultation, reference 2.19) and included a link to the Consultation Information Sheet on Woodside's website. - On 17 February 2025, Woodside emailed NTSC a consultation update on this EP (Record of Consultation, reference 3.2). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with NTSC. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA. - On 10 March 2025, Woodside sent a reminder email to NTSC following up on the proposed activity (Record of Consultation, reference 4.1). Woodside included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

While NTSC is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for NTSC to provide feedback during the consultation process.

Northern Territory Aquarium Fish/Display Fish Fishery

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 22 September 2023, Woodside sent a letter to Northern Territory Aquarium Fish/Display Fish Fishery licence holders advising of the proposed activity (Record of Consultation, reference 1.42) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder letter to Northern Territory Aquarium Fish/Display Fish Fishery following up on the proposed activity (Record of Consultation, reference 2.4) and included a QR code link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted NT Fisheries and individual licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

While Northern Territory Aquarium Fish/Display Fish Fishery is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Northern Territory Aquarium Fish/Display Fish Fishery to provide feedback during the consultation process.

Northern Territory Spanish Mackerel Fishery

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 22 September 2023, Woodside sent a letter to Northern Territory Spanish Mackerel Fishery licence holders advising of the proposed activity (Record of Consultation, reference 1.42) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

- On 16 October 2023, Woodside sent a reminder letter to Northern Territory Spanish Mackerel Fishery following up on the proposed activity (Record of Consultation, reference 2.4) and included a QR code link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted NT Fisheries and individual licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While Northern Territory Spanish Mackerel Fishery is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Northern Territory Spanish Mackerel Fishery to provide feedback during the consultation process.		

Northern Territory Offshore Net and Line Fishery

Summary of information provided and record of consultation for this EP and the other operations EP:		
- On 22 September 2023, Woodside sent a letter to Northern Territory Offshore Net and Line Fishery licence holders advising of the proposed activity (Record of Consultation, reference 1.42) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 16 October 2023, Woodside sent a reminder letter to Northern Territory Offshore Net and Line Fishery following up on the proposed activity (Record of Consultation, reference 2.4) and included a QR code link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted NT Fisheries and individual relevant licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
While Northern Territory Offshore Net and Line Fishery is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Northern Territory Offshore Net and Line Fishery to provide feedback during the consultation process.		

Northern Territory Demersal Fishery

Summary of information provided and record of consultation for this EP and the other operations EP:		
- On 22 September 2023, Woodside sent a letter to Northern Territory Demersal Fishery licence holders advising of the proposed activity (Record of Consultation, reference 1.42) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 16 October 2023, Woodside sent a reminder letter to Northern Territory Demersal Fishery following up on the proposed activity (Record of Consultation, reference 2.4) and included a QR code link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted NT Fisheries and individual licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While Northern Territory Demersal Fishery is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Northern Territory Demersal Fishery to provide feedback during the consultation process.		

Northern Territory Mud Crab Fishery

Summary of information provided and record of consultation for this EP and the other operations EP:
--

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 460 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 22 September 2023, Woodside sent a letter to Northern Territory Mud Crab Fishery licence holders advising of the proposed activity (Record of Consultation, reference 1.42) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder letter to Northern Territory Mud Crab Fishery following up on the proposed activity (Record of Consultation, reference 2.4) and included a QR code link to the Consultation Information Sheet on Woodside's website.
- On 20 October 2023, a licence holder from the Northern Territory Mud Crab Fishery responded thanking Woodside for the opportunity to be consulted (SI Report, reference 70.1). It explained its business undertakings related to Sea Country activities and enquired about:
 - (1) The process of reporting accidental waste discharged into the environment.
 - (2) The process for reporting damage to sea life on the sea floor, such as giant clams and any other protected or endangered species.
 - (3) Opportunities for local Aboriginal sea rangers to work on the activities associated with this EP or other activities.
 - (4) Opportunities for the licence holder to work with Woodside on any activities.
- On 17 November 2023, Woodside responded and thanked the licence holder for its feedback (SI Report, reference 70.2). Woodside:
 - (1) Advised that activities that occurred under this EP had requirements for reporting to NOPSEMA which included accidental waste discharged to the environment. The Environment Regulations specified when and what Woodside would need to report depending on the severity of the incident. There may also be requirements for reporting to other regulators that Woodside would follow, for example, to the Australian Maritime Safety Authority.
 - (2) Advised that activities associated with this EP were located where the sea floor was predominantly soft, sandy seabed and sea life such as giant clams and other protected or endangered species were not known to occur. However, if the activities described in the EP resulted in the unintentional death of or injury to a fauna species listed as Threatened or Migratory, and the activity was not authorised by a permit, this would be reported to the Department of Climate Change, Energy, Environment and Water
 - (3, 4) Noted the Aboriginal Sea Company's interest in opportunities for local Aboriginal sea rangers and broader opportunities between Woodside and the Traditional Owners and advised Woodside was currently looking to work through both the Northern Land Council and Tiwi Land Council.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) The process for reporting the discharge of accidental waste.	(1) Woodside assessment: Woodside complies with NOPSEMA's reporting requirements. Woodside response: Woodside provided information on the process for reporting accidental waste discharged into the environment.	(1) Existing controls considered sufficient as described in Sections 6.6 and 6.7 of the EP.
(2) The process for reporting damage to the sea life on the sea floor.	(2) Woodside assessment: Woodside complies with NOPSEMA's reporting requirements.	(2) Existing controls considered sufficient as described in Sections 6.6 and 6.7 of the EP.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Woodside response: Woodside provided information on the sea floor where the activities associated with this EP are located, and on the process for reporting the unintentional death of or injury to a fauna species listed as Threatened or Migratory.	
(3) Opportunities for local Aboriginal sea rangers on the activity.	(3) Woodside assessment: Woodside notes ASC's interest in opportunities for local Aboriginal sea rangers. Woodside response: Woodside advised it was currently looking to work through both the Northern Land Council and Tiwi Land Council and was open to further discussion with ASC.	(3) Not required.
(4) Opportunities for the licence holder to work with Woodside on broader activities.	(4) Woodside assessment: Woodside notes ASC's interest in broader opportunities between Woodside and Traditional Owners. Woodside response: Woodside advised it was currently looking to work through both the Northern Land Council and Tiwi Land Council and was open to further discussion with ASC.	(4) Not required.
While feedback has been received, there were no objections or claims.	Woodside has consulted NT Fisheries and individual licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While Northern Territory Mud Crab Fishery is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Northern Territory Mud Crab Fishery to provide feedback during the consultation process.		

Northern Territory Mollusc Fishery

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 22 September 2023, Woodside sent a letter to Northern Territory Mollusc Fishery licence holders advising of the proposed activity (Record of Consultation, reference 1.42) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder letter to Northern Territory Mollusc Fishery following up on the proposed activity (Record of Consultation, reference 2.4).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside has consulted NT Fisheries and individual licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcomes of consultation

While Northern Territory Mollusc Fishery is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Northern Territory Mollusc Fishery to provide feedback during the consultation process.

Northern Territory Aquaculture Fishery

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 22 September 2023, Woodside sent a letter to Northern Territory Aquaculture Fishery licence holders advising of the proposed activity (Record of Consultation, reference 1.42) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder letter to Northern Territory Aquaculture Fishery following up on the proposed activity (Record of Consultation, reference 2.4) and included a QR code link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
---	--	-------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 463 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

No feedback, objections or claims received despite follow-up.	Woodside has consulted NT Fisheries and individual licence holders. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While Northern Territory Aquaculture Fishery is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Northern Territory Aquaculture Fishery to provide feedback during the consultation process.		

Recreational marine users and representative bodies

Shark Bay Marine Users

Summary of information provided and record of consultation for this EP: - On 18 October 2023, in an email to Woodside, Shire of Shark Bay identified Shark Bay marine, dive and charter operators that may be potentially relevant persons for this EP. - On 31 October 2023, Woodside emailed the Shark Bay marine users advising of the proposed activities (Record of Consultation, reference 1.62) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 15 December 2023, Woodside sent a reminder email to Shark Bay marine users following up on the proposed activity (Record of Consultation 2.18) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 464 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

While Shark Bay Marine Users is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shark Bay Marine Users to provide feedback during the consultation process.

Amateur Fishermen's Association of the NT

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 15 December 2023, Woodside emailed Amateur Fishermen's Association of the NT advising of the proposed activity (Record of Consultation, reference 1.99) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 9 January 2024, Woodside sent a reminder email to Amateur Fishermen's Association of the NT following up on the proposed activity (Record of Consultation, reference 2.19) and included a link to the Consultation Information Sheet on Woodside's website.
- On 18 February 2025, Woodside emailed Amateur Fishermen's Association of the NT a consultation update on this EP (Record of Consultation, reference 3.12). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with Amateur Fishermen's Association of the NT. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 11 March 2025, Woodside sent a reminder email to Amateur Fishermen's Association of the NT following up on the proposed activity (Record of Consultation, reference 4.2). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcomes of consultation

While Amateur Fishermen's Association of the NT is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Amateur Fishermen's Association of the NT to provide feedback during the consultation process.

Northern Territory Guided Fishing Industry Association (NTGFIA)

Summary of information provided and record of consultation:

- On 18 December 2023, Woodside telephoned NTGFIA advising of the proposed activity and seeking guidance on whether it was necessary to consult individual operators (SI Report, reference 48.1). Woodside noted that it was consulting on this EP in combination with another Operations EP, and that only the EMBA for the other Operations EP extended into Northern Territory waters.
- On 18 December 2023, Woodside emailed NTGFIA with further information about the proposed activity (Record of Consultation, reference 1.100) and provided a Consultation Information Sheet, and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 20 December 2023, NTGFIA responded thanking Woodside for the email (SI Report, reference 48.2). NTGFIA:
 - (1) Noted that given the very limited portion of NT waters impacted and the unlikelihood of its members operating in those areas, it had no comment at that time.
- On 21 December 2023, Woodside responded thanking NTGFIA for its feedback (SI Report, reference 48.3). Woodside:
 - (1) Noted the unlikelihood of members operating in those areas and that the NTGFIA therefore had no comment at this time.
 - (1) Advised that on that basis, Woodside would not consult individual operators for this activity.
- On 18 February 2025, Woodside emailed NTGFIA a consultation update on this EP (Record of Consultation, reference 3.12). Woodside advised that additional modelling during the EP development process had resulted in changes to the EMBA and based on those changes, Woodside was undertaking additional consultation with NTGFIA. Woodside attached an updated Consultation Information Sheet which included a map of the revised EMBA.
- On 11 March 2025, Woodside sent a reminder email to NTGFIA following up on the proposed activity (Record of Consultation, reference 4.2). Woodside included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's response	Inclusion in Environment Plan
(1) NTGFIA advised that due to the limited portion of NT waters impacted and the unlikelihood of its members operating in those areas, it had no comment at this time.	(1) Woodside assessment: Woodside accepts that NTGFIA has no comment on the proposed activity and, due to the unlikelihood of its members operating within the EMBA, Woodside has not consulted individual charter operators. Woodside response: Woodside acknowledged that NTGFIA had no comment and it was unlikely its members would operate within the EMBA. On that basis, Woodside advised it would not consult individual operators.	(1) Not required.

While feedback has been received, there were no objections or claims.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.1.16 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While NTGFIA is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for NTGFIA to provide feedback during the consultation process.		

Peak Industry Representative Bodies

National Energy Resource Australia (NERA)

Summary of information provided and record of consultation for this EP: - On 5 October 2023, Woodside emailed NERA advising of the proposed activity (Record of Consultation, reference 1.55) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure Consultation on offshore petroleum environment plans: Information for the community. - On 30 October 2023, Woodside sent a reminder email to NERA following up on the proposed activity (Record of Consultation, reference 2.10) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

While NERA is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for NERA to provide feedback during the consultation process.

Traditional Custodians and nominated representative corporations

Ngadju Native Title Aboriginal Corporation (Ngadju)

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 16 October 2023, Woodside emailed Ngadju advising of the proposed activity (Record of Consultation, reference 1.74) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that Ngadju and its members may have within the EMBA, information on how Ngadju would like to engage, and requested that Ngadju provide information to other individuals as required.
- On 20 October 2023, Woodside telephoned Ngadju and left a message asking for its call to be returned (SI Report, reference 49.1). Ngadju returned Woodside's call.
- On 20 October 2023, in follow-up to the phone call, Woodside emailed Ngadju, advising of the proposed activity and again provided the Summary Information Sheet and links to detailed information sheets. Woodside also provided a link to NOPSEMA's Consultation Brochure as well as their contact details (SI Report, reference 49.2).
- On 31 October 2023, Woodside sent a follow-up email asking whether Ngadju would like any further information on the environment plan and advising it was available to meet in Perth on 2 November 2023 or 8 November 2023 (SI Report, reference 49.3). No response was received.
- On 7 December 2023, Woodside sent a follow-up email asking whether Ngadju would like any further information on the environment plan and advising there was availability to meet in Perth on 11 December 2023 (SI Report, reference 49.4). No response was received.
- On 19 December 2023, Woodside emailed Ngadju wishing them a safe festive season and offered assistance on the environment plan (SI Report, reference 49.5).
- (1) On 3 January 2024, Woodside met face to face with Ngadju to discuss the Ngadju Native Title Aboriginal Corporation's (NNTAC) recent elections and appointment of new CEO, and transfer of ranger group and conservation projects to new NNTAC CEO and Board. Ngadju expressed it is keen to continue working with Woodside on activities. No concerns were raised regarding the Pyrenees EP (SI Report, reference 49.6). (1) Woodside noted this feedback and will include it in the EP.
- On 25 January 2024, Woodside phoned Ngadju corporation and left a message requesting a return call, no response was received (SI Report, reference 49.7).
- On 2 February 2024, Woodside emailed Ngadju NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information, as well as a request to consult on the proposed activity. This email also reiterated Woodside's request that Ngadju advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult (SI Report, reference 49.8).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) Ngadju is keen to continue working with Woodside and had no concerns about this activity.	(1) Woodside assessment: Woodside acknowledges Ngadju's feedback. Woodside response: Woodside is committed to further consultation and engagement with Ngadju on other activities.	(1) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
While Ngadju is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Ngadju to provide feedback during the consultation process.		

Yawoorroong Miriuwung Gajerrong Yirrgeb Noong Dawang (MGC) (MG Corp)

MG Corp is established under the *Native Title Act 1993 (Cth)* by the Miriuwung and Gajerrong people to represent the Miriuwung and Gajerrong people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

- On 18 July 2023, Woodside emailed MG Corp NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that MG Corp advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult (SI Report, reference 55.1).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 469 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 15 September 2023, Woodside emailed MG Corp an agenda and presentation in advance of a meeting planned for 18 September to discuss unrelated activities as well as this activity (SI Report, reference 55.2).
- On 18 September 2023, Woodside met with the MG Corp Chair and Directors and presented on this activity along with others (SI Report, reference 55.3). Woodside:
 - Described the EP framework, referring to the Offshore Petroleum and Greenhouse Gas Storage Act (Environment) Regulations, NOPSEMA's role as regulator and general contents of EPs.
 - Displayed a map of the EMBA and discussed how the EMBA is developed.
 - Gave an overview of the activity.
 - Specifically, Woodside asked the following:
 - How could these activities impact your cultural values, interests, and activities - does protecting the environment do enough to protect your cultural values?
 - What are your concerns about the proposed activities and what do you think we should do about them?
 - Is there anything you would like included in the EPs before submission?
 - Is there anyone else Woodside should consult with about the activities?
 - MG Corp noted:
 - **(1)** That native title exists on Lacrosse Island and is closer to shore in relation to impacts from this activity. **(1)** Woodside informed MG Corp that Lacrosse Island did not fall in the EMBA for this activity.
 - **(1)** There are registered sites on Lacrosse Island to be aware of.
 - **(2)** That Balanggarra should be involved in future discussions. **(2)** Woodside said that they had made attempts to contact Balanggarra.
- On 13 October 2023, Woodside emailed MG Corp advising of the proposed activity (Record of Consultation, reference 1.105) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that MG Corp and its members may have within the EMBA, information on how MG Corp would like to engage, and requested that MG Corp provide information to other individuals as required.
- On 1 November 2023, Woodside emailed MG Corp following up on the activity summary sheets and asking if there was any feedback or further information required (SI Report, reference 55.4). No response was received.
- On 25 January 2024, Woodside phoned MG Corp and was advised to send an email (SI Report, reference 55.5).
- On 25 January 2024, Woodside emailed MG Corp following up on this activity, re-attaching the Summary Information sheet sent in October 2023, and offering to provide further information if required. Woodside stated they would submit this EP to NOPSEMA in February 2024, re-iterating feedback from MG Corp is open for the life of the EP (SI Report, reference 55.6).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
---	--	-------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

(1) MG Corp advised Woodside that Native title exists on Lacrosse Island and is closer to shore in terms of impacts, as well as there are registered sites on the island.	(1) Woodside assessment: Woodside acknowledges MG Corp advice that Native title exists on Lacrosse Island and there are registered sites on the island. Woodside response: Woodside informed MG Corp that Lacrosse Island did not fall in the EMBA for this activity.	(1) Not required.
(2) MG Corp advised Woodside that Balanggarra should be involved in future discussions.	(2) Woodside assessment: Woodside acknowledges MG Corp advice that Balanggarra should be involved in future discussions. Woodside response: Woodside has made a number of attempts to contact Balanggarra regarding this activity. On 4 March 2025, Balanggarra emailed Woodside confirming that previous emails about the proposed activity have been received.	(2) Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
While MG Corp is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for MG Corp to provide feedback during the consultation process.		

Mirning Traditional Lands Aboriginal Corporation RNTBC (MTLAC)

MTLAC is established under the *Native Title Act 1993 (Cth)* by the Mirning people to represent the Mirning people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 4 October 2023, Woodside emailed MTLAC advising of the proposed activity (Record of Consultation, reference 1.94) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that MTLAC and its members may have within the EMBA, information on how MTLAC would like to engage, and requested that MTLAC provide information to other individuals as required.
- On 24 October 2023, Woodside emailed MTLAC following up on the activity (SI Report, reference 56.1). No response was received.
- On 8 December, Woodside sent a follow-up email offering to answer any questions relating to the proposed EPs. Woodside advised of their availability to schedule a consultation session (SI Report, reference 56.2).
- On 19 December 2023, Woodside emailed MTLAC thanking them for their contributions throughout the year and offering opportunity for consultation regarding Woodside projects (SI Report, reference 56.3).
- On 9 January 2024, Woodside emailed MTLAC following up on previous correspondence and offering the opportunity to meet via MTLAC's preferred method of consultation (SI Report, reference 56.4).
- On 9 January 2024, MTLAC emailed Woodside advising acceptance of a meeting, enquiring the purpose of the meeting and requesting a date suitable to Woodside (SI Report, reference 56.5).
- On 10 January 2024, Woodside emailed MTLAC informing them of the aim of the meeting and advising a calendar invite would be sent out later that day (SI Report, reference 56.6).
- On 22 January 2024, Woodside met with MTLAC (SI Report, reference 56.7). Woodside:
 - Described the EP framework, referring to the Offshore Petroleum and Greenhouse Gas Storage Act (Environment) Regulations, NOPSEMA's role as regulator and general contents of EPs.
 - Displayed a map of the EMBA and discussed how the EMBA is developed.
 - Gave an overview of the activity including that woodside will continue to produce crude oil.
 - Spoke about routine inspections, monitoring maintenance and repairs associated with the subsea infrastructure.
 - Described planned and unplanned environmental risks and impacts in accordance with tables provided in the Information Sheets for the activities, emphasising that unplanned risks are not expected to occur and are unlikely.
 - Specifically, Woodside asked the following:
 - How could these activities impact your cultural values, interests, and activities - does protecting the environment do enough to protect your cultural values?

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

▪ What are your concerns about the proposed activities and what do you think we should do about them? ▪ Is there anything you would like included in the EPs before submission? ▪ Is there anyone else Woodside should consult with about the activities? – Advised that Woodside will continue to take feedback from MTLAC for the life of the EP. – Discussed ranger programs and initiatives that Woodside has partnered on. – MTLAC noted: ▪ (1) That due to the location of the activity it was unlikely that Mirning country would be impacted. (1) Woodside noted MTLAC's feedback and would document in the EP. – (2) Discussion on cultural heritage and Sea Country mapping took place. (2) Woodside noted that there would be an opportunity to talk further on Sea Country mapping. • On 31 January 2024, Woodside emailed MTLAC thanking them for the meeting that occurred on 22 January 2024. Woodside noted that it was unclear if they would need to consult with MTLAC on future environment plans and attached Woodside's program of ongoing consultation (SI Report, reference 56.8).		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) MTLAC noted that due to the location of the activity it was unlikely that Mirning country would be impacted.	(1) Woodside assessment: Feedback has been received but this is an exchange of information, no objections or claims. Woodside response: Woodside accepts that MTLAC's feedback that due to the location of the activity it was unlikely Mirning country would be impacted.	(1) No additional measures or controls are required.
(2) MTLAC and Woodside discussed cultural heritage and Sea Country mapping.	(2) Woodside assessment: Woodside noted the discussion with MTLAC about cultural heritage and Sea Country mapping. Woodside response: Woodside confirmed that there could be opportunities to support MTLAC with Sea Country mapping.	(2) No additional measures or controls are required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the	Based on the engagement to date, no additional measures or controls are required.

	activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	
Outcomes of consultation		
While MTLAC is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for MTLAC to provide feedback during the consultation process.		

Esperance Tjaltjraak Native Title Aboriginal Corporation (ETNTAC)

Summary of information provided and record of consultation for this EP:

- On 3 October 2023, Woodside emailed ETNTAC advising of the proposed activity (Record of Consultation, reference 1.86) and provided a Summary Information Sheet (including a link to the detailed information sheet on Woodside's website). The email requested information on the interests that ETNTAC and its members may have within the EMBA. Woodside also provided a link to NOPSEMA's brochure "Consultation on offshore petroleum environment plans" alongside NOPSEMA's contact details.
- On 3 October 2023, ETNTAC emailed Woodside to confirm receipt of the email and noted the link to the detailed Consultation Information Sheet wasn't allowing access (SI Report, reference 47.1).
- On 3 October 2023, Woodside responded with a new link for the detailed Consultation Information Sheet (SI Report, reference 47.2).
- On 3 October 2023, ETNTAC responded (SI Report, reference 47.3) thanking Woodside for the link and asked:
 - (1) Woodside to summarise why it was seeking to engage with ETNTAC regarding the project.
 - (2) Why the limit of potential impact is Ravensthorpe and whether this is based on the potential impacts to coastal areas from a release of hydrocarbons as far east as Ravensthorpe, or another factor impacting inland areas as well.
- On 3 October 2023, Woodside responded (SI Report, reference 47.4) and:
 - (1, 2) Explained the methodology behind the EMBA and that the coast of Esperance falls within the catchment area.
 - (1) Provided some common Questions and Answers regarding what constitutes a relevant person and how an EMBA is determined. Woodside noted that following a Federal Court decision, it now consults much more broadly and consults with persons based on potential impacts from an unplanned event rather than planned impacts of a proposed offshore activity.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- Provided direction and a link to the NOPSEMA website for further information on consultation guidelines and oil spilling modelling.
- On 24 October 2023, Woodside sent a follow-up email enquiring if ETNTAC had any questions relating to this EP and offered consultation sessions with the members and/or board of ETNTAC (SI Report, reference 47.5). No response has been received.
- On 8 December 2023, Woodside emailed ETNTAC following up on previous correspondence and offering opportunity for consultation sessions with members and/or Board of ETNT during the festive period (SI Report, reference 47.6).
- On 19 December 2023, Woodside emailed ETNTAC wishing a happy festive season, thanking ETNTAC for their contributions throughout the year and offering availability for consultation sessions (SI Report, reference 47.7).
- On 22 December, ETNTAC emailed Woodside apologising for the lack of communication and advising Woodside of when to expect future correspondence from ETNTAC (SI Report, reference 47.8).
- On 9 January 2024, Woodside emailed ETNTAC following up on previous correspondence offering to meet and discuss the EP. Woodside included contact information of the best contact person following 31 January 2024 (SI Report, reference 47.9).
- On 2 February 2024, Woodside emailed ETNTAC links to NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. The email informed ETNTAC that consultation prior to being submitted to NOPSEMA would close for this EP on 23 February 2024. Woodside offered to meet with ETNTAC at their preferred place and time. Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024 (SI Report, reference 47.10).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) ETNTAC has sought clarification on why Woodside is consulting with it on this activity.	(1) Woodside assessment: Woodside acknowledges ETNTAC needs information about why it is relevant to this activity. Woodside response: Woodside provided a written response advising ETNTAC of the methodology behind the EMBA, which for this EP includes the coast of Esperance, and confirmed that based on a Federal Court decision, Woodside now consults more broadly with persons based on potential impacts from an unplanned event rather than planned impacts of a proposed offshore activity. Woodside also provided some further Q&As about the development of the EMBA.	(1) Not required.
(2)	(2)	(2)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

ETNTAC has queried why the limit of potential impact is Ravensthorpe.	Woodside assessment: Woodside has determined potential impacts through the development of an EMBA. Woodside response: Woodside provided a written response advising ETNTAC of the methodology behind the EMBA, which for this EP includes the coast of Esperance, Woodside also provided some further Q&As about the development of the EMBA.	Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1).	Based on the engagement to date, no additional measures or controls are required.
Outcomes of consultation		
While ETNTAC is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for ETNTAC to provide feedback during the consultation process.		

Wilinggin Aboriginal Corporation (Wilinggin)

Wilinggin Aboriginal Corporation is established under the *Native Title Act 1993 (Cth)* by the Ngarinyin people to represent the Ngarinyin people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical engagement:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 476 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 18 July 2023, Woodside emailed KLC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that KLC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult (SI Report, reference 57.1).

Summary of information provided and record of consultation for this EP:

- On 13 October 2023, Woodside emailed Wilinggin advising of the proposed activity (Record of Consultation, reference 1.93) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that Wilinggin and its members may have within the EMBA, information on how Wilinggin would like to engage, and requested that Wilinggin provide information to other individuals as required.
- On 25 October 2023, Woodside emailed Wilinggin (via KLC) introducing themselves and querying the best point of contact for Wilinggin (along with some other PBCs) (SI Report, reference 57.2).
- On 30 October 2023, Wilinggin (via KLC) emailed Woodside advising of the appropriate contact details for Wilinggin (SI Report, reference 57.3).
- On 2 November 2023, Woodside emailed KLC thanking them for providing the best contact details in their email on 30 October 2023 and explained how Woodside had tried all available contacts provided to them by KLC. Woodside also stated that they were flexible and will support Wilinggin's preferred method of consultation (dates and locations) (SI Report, reference 57.4).
- On 2 November 2023, Wilinggin (via KLC) emailed Woodside confirming that they would pass onto relevant persons (SI Report, reference 57.5).
- On 2 November 2023, Woodside emailed Wilinggin introducing themselves and enquiring the best point of contact. Woodside also queried if there was availability for a meeting or if any follow up information was required for this activity (SI Report, reference 57.6).
- On 16 November 2023, Woodside sent a follow-up email to Wilinggin enquiring the best contact to reach the Chief Executive Officer for the Wilinggin Aboriginal Corporation. Woodside also offered the opportunity to meet and discuss Woodside activities with the Wilinggin Aboriginal Corporation (SI Report, reference 57.7).
- On 24 November 2023, Woodside emailed Wilinggin requesting the opportunity to meet and answer any questions relating to the EP. Woodside again provided the Summary Information Sheets that were originally sent in October 2023 and asked whether Wilinggin had any feedback on the activity, noting that consultation was open for the life of the EP (SI Report, reference 57.8).
- On 23 January 2024, Woodside emailed Wilinggin to inform that consultation prior to being submitted to NOPSEMA will close for this EP on 23 February 2024. Woodside offered to meet with Wilinggin at their preferred place and time. Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments post 23 February 2024 (SI Report, reference 57.9).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted it will be assessed and, where appropriate, Woodside will apply its	No additional measures or controls are required.

	Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
While Wilinggin is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Wilinggin to provide feedback during the consultation process.		

Wunambal Gaambera Aboriginal Corporation (WGAC)

WGAC is established under the *Native Title Act 1993 (Cth)* by the Wunambal Gaambera people to represent the Wunambal Gaambera people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Historical Engagement

- On 18 July 2023, Woodside emailed WGAC/KLC NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information. This email also reiterated Woodside's request that WGAC advise Woodside of any other Traditional Custodian groups or individuals with whom Woodside should consult (SI Report, reference 58.1).

Summary of information provided and record of consultation for this EP:

- On 2 October 2023, Woodside emailed WGAC advising of the proposed activity (Record of Consultation, reference 1.95) and provided a simplified Consultation Information Sheet (including a link to the detailed information sheet on Woodside's website) as well as a summary overview fact sheet. The email requested information on the interests that WGAC and its members may have within the EMBA, information on how WGAC would like to engage, and requested that WGAC provide information to other individuals as required. On 18 October 2023, Woodside emailed WGAC to identify the best contact details regarding consultation matters.
- On 18 October 2023, Woodside emailed WGAC seeking points of contact for consultation (SI Report, reference 58.2).
- On 18 October 2023, WGAC emailed Woodside with contact details (SI Report, reference 58.3).
- On 18 October 2023, Woodside emailed WGAC seeking to meet with the WGAC Board to provide information and seek feedback on Woodside activities (SI Report, reference 58.4).
- On 15 November 2023, Woodside emailed WGAC following up on previous correspondence and again requesting an opportunity to discuss current activities (SI Report, reference 58.5).
- On 23 November 2023, Woodside emailed WGAC offering a meet and greet to discuss potential funding of future arrangements for meetings and talk through the EP process (SI Report, reference 58.6).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 23 January 2024, Woodside emailed to inform WGAC that consultation prior to being submitted to NOPSEMA will close for this EP on 23 February 2024. Woodside offered to meet with WGAC at their preferred place and time. Woodside re-iterated that consultation was ongoing for the life of the plan and Woodside would assess and respond to any feedback and comments received post 23 February 2024 (SI Report, reference 58.7).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While WGAC is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for WGAC to provide feedback during the consultation process.		

Local government and elected Parliamentary representatives, community groups or organisations

City of Albany

Summary of information provided and record of consultation for this EP:		
- On 21 September 2023, Woodside emailed City of Albany advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to City of Albany following up on the proposed activities (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
While City of Albany is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for City of Albany to provide feedback during the consultation process.		

City of Bunbury

Summary of information provided and record of consultation for this EP and the other operations EP:		
- On 21 September 2023, Woodside emailed City of Bunbury advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to City of Bunbury following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While City of Bunbury is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for City of Bunbury to provide feedback during the consultation process.		

Town of Cambridge

Summary of information provided and record of consultation for this EP:		
- On 21 September 2023, Woodside emailed Town of Cambridge advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Town of Cambridge following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While Town of Cambridge is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Town of Cambridge to provide feedback during the consultation process.		

Shire of Capel

Summary of information provided and record of consultation for this EP and the other operations EP: - On 21 September 2023, Woodside emailed Shire of Capel advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Shire of Capel following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While Shire of Capel is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shire of Capel to provide feedback during the consultation process.		

Shire of Cocos (Keeling) Islands

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 21 September 2023, Woodside emailed Shire of Cocos (Keeling) Islands advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 4 October 2023, Woodside emailed the Shire CEO to provide further information on EP consultation and to request feedback on interests/concerns. Woodside also enquired whether the Shire wished for Woodside to consult with the Cocos Malay community (SI Report, reference 68.1).
- On 18 October 2023, Woodside sent a reminder email to Shire of Cocos (Keeling) Islands following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.
- On 24 October 2023, Woodside sent a follow-up email and reconfirmed its offer to conduct a consultation meeting or to provide additional project information (SI Report, reference 68.2).
- On 6 November 2023, the Shire emailed Woodside to confirm that as mapping (for the other operations EP) showed the Cocos (Keeling) Islands may, while highly unlikely, be impacted by hydrocarbon release, it would like to have a roundtable discussion – preferably on-site but at a minimum online - to fully understand EMBAs (SI Report, reference 68.3).
- On 6 November 2023, Woodside emailed the Shire and acknowledged the request for a meeting (SI Report, reference 69.4). Woodside enquired about availability and preferred dates/times over the following weeks and confirmed it would discuss logistics for the meeting, with a face-to-face meeting preferred if possible.
- On 7 November 2023, Woodside emailed the Shire noting it had spoken to the travel advisor on the island and proposing potential meeting dates in late November or early December, or February if the 2023 dates did not align with the Shire's schedule (SI Report, reference 68.5).
- On 14 November 2023, Woodside emailed to follow up on potential dates for a meeting (SI Report, reference 68.6).
- On 5 February 2024, Woodside telephoned Shire of Cocos (Keeling) Islands to organise arrangements for an online meeting on 15 February 2024.
- On 15 February 2024, Woodside met with Shire of Cocos (Keeling) Islands via MS Teams (SI Report, reference 68.7). Woodside provided information about three EPs including this one and described how EMBAs were developed. Woodside noted that consultation for this EP had been combined with another Operations EP, therefore Woodside had chosen to consult the Shire for both EPs although the EMBA for this EP did not reach the Cocos (Keeling) Islands. During the meeting:
 - (1) The Shire noted it appreciated Woodside's consultation and the explanation of the EMBA, and had no comments or concerns specific to this EP.
 - (1) Woodside thanked the Shire for its feedback on consultation and noted it had no concerns on this specific EP.
 - The Shire advised many groups on the island had strong interests in environmental matters and suggested a further meeting with additional Shire representatives regarding Woodside activities. Woodside and the Shire agreed to arrange a future meeting to address this.
 - Woodside advised that it welcomed feedback throughout the life of an EP.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
---	--	-------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

(1) The Shire had no specific comments or concerns on this EP.	(1) Woodside assessment: Woodside accepts that the Shire has no specific comments or concerns regarding this EP. Woodside response: Woodside noted the Shire had no specific comments or concerns regarding this EP.	(1) Not required.
While feedback has been received, there were no objections or claims.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While Shire of Cocos (Keeling) Islands is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shire of Cocos (Keeling) Islands to provide feedback during the consultation process.		

Shire of Denmark

Summary of information provided and record of consultation for this EP: - On 21 September 2023, Woodside emailed Shire of Denmark advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Shire of Denmark following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 483 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

While Shire of Denmark is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shire of Denmark to provide feedback during the consultation process.

Town of Cottesloe

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 21 September 2023, Woodside emailed Town of Cottesloe advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Town of Cottesloe following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While Town of Cottesloe is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Town of Cottesloe provide feedback during the consultation process.		

Shire of Dundas

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 21 September 2023, Woodside emailed Shire of Dundas advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Shire of Dundas following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
---	--	-------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While Shire of Dundas is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shire of Dundas to provide feedback during the consultation process.		

Shire of Esperance

Summary of information provided and record of consultation for this EP:		
- On 21 September 2023, Woodside emailed Shire of Esperance advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Shire of Esperance following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While Shire of Esperance is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shire of Esperance to provide feedback during the consultation process.		

City of Fremantle

Summary of information provided and record of consultation for this EP and the other operations EP:
--

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 485 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 21 September 2023, Woodside emailed City of Fremantle advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to City of Fremantle following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While City of Fremantle is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for City of Fremantle to provide feedback during the consultation process.		

Shire of Jerramungup

Summary of information provided and record of consultation for this EP and the other operations EP:		
- On 21 September 2023, Woodside emailed Shire of Jerramungup advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Shire of Jerramungup following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 486 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

While Shire of Jerramungup is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shire of Jerramungup to provide feedback during the consultation process.

City of Kwinana

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 21 September 2023, Woodside emailed City of Kwinana advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to City of Kwinana following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While City of Kwinana is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for City of Kwinana to provide feedback during the consultation process.		

Town of Mosman Park

Summary of information provided and record of consultation for this EP and the other operations EP:

- On 21 September 2023, Woodside emailed Town of Mosman Park advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Town of Mosman Park following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
---	--	-------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While Town of Mosman Park is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Town of Mosman Park to provide feedback during the consultation process.		

Shire of Nannup

Summary of information provided and record of consultation for this EP:		
- On 21 September 2023, Woodside emailed Shire of Nannup advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Shire of Nannup following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While Shire of Nannup is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shire of Nannup to provide feedback during the consultation process.		

City of Nedlands

Summary of information provided and record of consultation for this EP:
--

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 21 September 2023, Woodside emailed City of Nedlands advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to City of Nedlands following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While City of Nedlands is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for City of Nedlands to provide feedback during the consultation process.		

Shire of Ravensthorpe

Summary of information provided and record of consultation for this EP:		
- On 21 September 2023, Woodside emailed Shire of Ravensthorpe advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet. - On 18 October 2023, Woodside sent a reminder email to Shire of Ravensthorpe following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 489 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

While Shire of Ravensthorpe is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shire of Ravensthorpe to provide feedback during the consultation process.

City of Stirling

Summary of information provided and record of consultation for this EP:

- On 21 September 2023, Woodside emailed City of Stirling advising of the proposed activity (Record of Consultation, reference 1.36) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to City of Stirling following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.

Outcomes of consultation

While City of Stirling is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for City of Stirling to provide feedback during the consultation process.

Albany Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:

- On 27 September 2023, Woodside emailed Albany Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 18 October 2023, Woodside sent a reminder email to Albany Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While Albany Chamber of Commerce and Industry is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Albany Chamber of Commerce and Industry to provide feedback during the consultation process.		

Bunbury Geographe Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP and the other operations EP: - On 27 September 2023, Woodside emailed Bunbury Geographe Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Bunbury Geographe Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While Bunbury Geographe Chamber of Commerce and Industry is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Bunbury Geographe Chamber of Commerce to provide feedback during the consultation process.		

Capel Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP and the other operations EP: - On 27 September 2023, Woodside emailed Capel Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Capel Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation While Capel Chamber of Commerce and Industry is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Chapel Chamber of Commerce and Industry to provide feedback during the consultation process.		

Denmark Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP: - On 27 September 2023, Woodside emailed Denmark Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Denmark Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Environment Plan Controls
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted,	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
While Denmark Chamber of Commerce and Industry is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Denmark Chamber of Commerce and Industry to provide feedback during the consultation process.		

Esperance Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:		
- On 27 September 2023, Woodside emailed Esperance Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Esperance Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While Esperance Chamber of Commerce and Industry is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Esperance Chamber of Commerce and Industry to provide feedback during the consultation process.		

Fremantle Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP and the other operations EP:
--

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 27 September 2023, Woodside emailed Fremantle Chamber of Commerce and Industry advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Fremantle Chamber of Commerce and Industry following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While Fremantle Chamber of Commerce and Industry is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Fremantle Chamber of Commerce and Industry to provide feedback during the consultation process.		

Nannup Chamber of Commerce and Industry

Summary of information provided and record of consultation for this EP:		
- On 27 September 2023, Woodside emailed Nannup Chamber of Commerce advising of the proposed activity (Record of Consultation, reference 1.51) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 18 October 2023, Woodside sent a reminder email to Nannup Chamber of Commerce following up on the proposed activity (Record of Consultation, reference 2.2) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

While Nannup Chamber of Commerce and Industry is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Nannup Chamber of Commerce and Industry to provide feedback during the consultation process.

Shark Bay Community Resource Centre

Summary of information provided and record of consultation for this EP:

- On 18 October 2023, in an email to Woodside (SI Report, reference 66.1), Shire of Shark Bay identified Shark Bay Community Resource Centre as a potentially relevant person for this EP.
- On 31 October 2023, Woodside emailed Shark Bay Community Resource Centre advising of the proposed activities (Record of Consultation, reference 1.62) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 15 December 2023, Woodside sent a reminder email to Shark Bay Community Resource Centre following up on the proposed activity (Record of Consultation, reference 2.18) and provided a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcomes of consultation

While Shark Bay Community Resource Centre not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shark Bay Community Resource Centre to provide feedback during the consultation process.

RAC Monkey Mia Dolphin Resort

Summary of information provided and record of consultation for this EP:

- On 18 October 2023, in an email to Woodside (SI Report, reference 66.1), Shire of Shark Bay identified RAC Monkey Mia Dolphin Resort as a potentially relevant person for this EP.
- On 31 October 2023, Woodside emailed RAC Monkey Mia Dolphin Resort advising of the proposed activities (Record of Consultation, reference 1.62) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

- On 15 December 2023, Woodside sent a reminder email to RAC Monkey Mia Dolphin Resort following up on the proposed activity (Record of Consultation, reference 2.18) and provided a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcomes of consultation

While RAC Monkey Mia Dolphin Resort is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for RAC Monkey Mia Dolphin Resort to provide feedback during the consultation process.

Dirk Hartog Island**Summary of information provided and record of consultation for this EP:**

- On 18 October 2023, in an email to Woodside (SI Report, reference 66.1), Shire of Shark Bay identified Dirk Hartog Island as a potentially relevant person for this EP.
- On 31 October 2023, Woodside emailed Dirk Hartog Island advising of the proposed activities (Record of Consultation, reference 1.62) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 15 December 2023, Woodside sent a reminder email to Dirk Hartog Island following up on the proposed activity (Record of Consultation, reference 2.18) and provided a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcomes of consultation

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

While Dirk Hartog Island is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Dirk Hartog Island to provide feedback during the consultation process.

Shark Bay Aviation

Summary of information provided and record of consultation for this EP:

- On 18 October 2023, in an email to Woodside (SI Report, reference 66.1), Shire of Shark Bay identified Shark Bay Aviation as a potentially relevant person for this EP.
- On 31 October 2023, Woodside emailed Shark Bay Aviation advising of the proposed activities (Record of Consultation, reference 1.62) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 15 December 2023, Woodside sent a reminder email to Shark Bay Aviation following up on the proposed activity (Record of Consultation, reference 2.18) and provided a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcomes of consultation

While Shark Bay Aviation is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shark Bay Aviation to provide feedback during the consultation process.

Naturetime Tours

Summary of information provided and record of consultation for this EP:

- On 18 October 2023, in an email to Woodside (SI Report, reference 66.1), Shire of Shark Bay identified Naturetime Tours as a potentially relevant person for this EP.
- On 31 October 2023, Woodside emailed Naturetime Tours advising of the proposed activities (Record of Consultation, reference 1.62) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 497 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- On 15 December 2023, Woodside sent a reminder email to Naturetime Tours following up on the proposed activity (Record of Consultation, reference 2.18) and provided a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While Naturetime Tours is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Naturetime Tours to provide feedback during the consultation process.		

Wula Gura Nyinda Eco Cultural Tours

Summary of information provided and record of consultation for this EP: - On 18 October 2023, in an email to Woodside (SI Report, reference 66.1), Shire of Shark Bay identified Wula Gura Nyinda Eco Cultural Tours as a potentially relevant person for this EP. - On 31 October 2023, Woodside emailed Wula Gura Nyinda Eco Cultural Tours advising of the proposed activities (Record of Consultation, reference 1.62) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 15 December 2023, Woodside sent a reminder email to Wula Gura Nyinda Eco Cultural Tours following up on the proposed activity (Record of Consultation, reference 2.18) and provided a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

While Wula Gura Nyinda Eco Cultural Tours is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Wula Gura Nyinda Eco Cultural Tours to provide feedback during the consultation process.

Shark Bay Coastal Tours

Summary of information provided and record of consultation for this EP:

- On 18 October 2023, in an email to Woodside (SI Report, reference 66.1), Shire of Shark Bay identified Shark Bay Coastal Tours as a potentially relevant person for this EP.
- On 31 October 2023, Woodside emailed Shark Bay Coastal Tours advising of the proposed activities (Record of Consultation, reference 1.62) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 15 December 2023, Woodside sent a reminder email to Shark Bay Coastal Tours following up on the proposed activity (Record of Consultation, reference 2.18) and provided a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.

Outcomes of consultation

While Shark Bay Coastal Tours is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Shark Bay Coastal Tours to provide feedback during the consultation process.

[Individual 1]

Summary of information provided and record of consultation for this EP:

- On 18 October 2023, in an email to Woodside (SI Report, reference 66.1), Shire of Shark Bay identified [Individual 1] as a potentially relevant person.
- On 31 October 2023, Woodside emailed [Individual 1] advising of the proposed activity (Record of Consultation, reference 1.62) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 15 December 2023, Woodside sent a reminder email to [Individual 1] following up on the proposed activity (Record of Consultation, reference 2.18) and provided a link to the Consultation Information Sheet on Woodside's website.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of this EP).	No additional measures or controls are required.
Outcomes of consultation		
While [Individual 1] is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for [Individual 1] to provide feedback during the consultation process.		

Malay Association of Christmas Island

Summary of information provided and record of consultation for this EP: - On 25 October 2023, in an email to the Shire of Christmas Island, Woodside sought contact details for the Malay Association of Christmas Island (SI Report, reference 71.1). - On 2 November 2023, Woodside sent a follow-up email regarding contacts for the Malay Association of Christmas Island and explaining its intention to provide an overview of Woodside Energy and its projects to the community and broader Shire (SI Report, reference 71.2). - On 3 November 2023, Woodside had a phone call with Shire of Christmas Island to discuss consultation opportunities (SI Report, reference 71.3). During the discussion: - The Shire noted it appreciated and supported Woodside's methodology for identifying and including First Nations stakeholder input. - The Shire identified other Malay contacts that Woodside should consider including in future engagements where relevant. - On 5 February 2024, Woodside phoned the Shire of Christmas Island following up on whether the Malay community wished to meet. The Shire advised the best point of contact for the Malay Association of Christmas Island and noted it was the same contact who had provided feedback to Woodside via the Shire's Fisheries Management Committee (FMC) (SI Report, reference 71.4). - On 12 February 2024, in an email to the FMC on separate feedback, Woodside noted that it was aware the FMC contact was also the best contact for the Malay association, and enquired as to whether consultation was requested with the Malay community (SI Report, reference 71.5).		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see (see Section 7.6.1 of the EP).	No feedback, objections or claims received.
Outcomes of consultation		
While Malay Association of Christmas Island is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Malay Association of Christmas Island to provide feedback during the consultation process.		

Other non-government groups or organisations

350 Australia (350A)

Summary of information provided and record of consultation for this EP: - On 26 September 2023, Woodside emailed 350A advising of the proposed activity (Record of Consultation, reference 1.44) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 17 October 2023, Woodside sent a reminder email to 350A following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While 350A is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for 350A to provide feedback during the consultation process.		

Greenpeace Australia Pacific (GAP)

Summary of information provided and record of consultation for this EP: - On 26 September 2023, Woodside emailed GAP advising of the proposed activity (Record of Consultation, reference 1.44) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 17 October 2023, Woodside sent a reminder email to GAP following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While GAP is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for GAP to provide feedback during the consultation process.		

Australia Conservation Foundation (ACF)

Summary of information provided and record of consultation for this EP: - On 26 September 2023, Woodside emailed ACF advising of the proposed activity (Record of Consultation, reference 1.44) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 17 October 2023, Woodside sent a reminder email to ACF following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	No additional measures or controls are required.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

	Change and Revision process (see Section 7.6.1 of the EP).	
Outcomes of consultation		
While ACF is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for ACF to provide feedback during the consultation process		

Australian Marine Conservation Society (AMCS)

Summary of information provided and record of consultation for this EP: - On 26 September 2023, Woodside emailed AMCS advising of the proposed activity (Record of Consultation, reference 1.44) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 17 October 2023, Woodside sent a reminder email to AMCS following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While AMCS is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for AMCS to provide feedback during the consultation process.		

Conservation Council of Western Australia (CCWA)

Summary of information provided and record of consultation for this EP: On 26 September 2023, Woodside emailed CCWA advising of the proposed activity (Record of Consultation, reference 1.44) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>.
--

- On 17 October 2023, Woodside sent a reminder email to CCWA following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While CCWA is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for CCWA to provide feedback during the consultation process.		

Sea Shepherd Australia (SSA)

Summary of information provided and record of consultation for this EP:

- On 26 September 2023, Woodside emailed SSA advising of the proposed activity (Record of Consultation, reference 1.44) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 17 October 2023, Woodside sent a reminder email to SSA following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

While SSA is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for SSA to provide feedback during the consultation process.

Environs Kimberley

Summary of information provided and record of consultation for this EP:

- On 17 February 2025, Woodside emailed Environs Kimberley advising of the proposed activity (Record of Consultation, reference 1.107) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 10 March 2025, Woodside sent a reminder email to Environs Kimberley following up on the proposed activity (Record of Consultation, reference 2.21) and included a link to the Consultation Information Sheet on Woodside's website.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While Environs Kimberley is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Environs Kimberley to provide feedback during the consultation process.		

Research institutes and local conservation groups or organisations

University of Western Australia (UWA)

Summary of information provided and record of consultation for this EP:

- On 13 September 2023, Woodside emailed UWA advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure *Consultation on offshore petroleum environment plans: Information for the community*.
- On 16 October 2023, Woodside sent a reminder email to UWA following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While UWA is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for UWA to provide feedback during the consultation process.		

Western Australian Marine Science Institution (WAMSI)

Summary of information provided and record of consultation for this EP: - On 13 September 2023, Woodside emailed WAMSI advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. - On 16 October 2023, Woodside sent a reminder email to WAMSI following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While WAMSI is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for WAMSI to provide feedback during the consultation process.		

Australian Institute of Marine Science (AIMS)

Summary of information provided and record of consultation for this EP: - On 13 September 2023, Woodside emailed AIMS advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>. (1) On 28 September 2023, AIMS responded thanking Woodside for its email and confirming no AIMS activities were impacted by the ongoing venture (SI Report, reference 72.1). (1) On 02 October 2023, Woodside responded thanking AIMS for its feedback (SI Report, reference 72.2).		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) AIMS advised none of its activities were impacted by the ongoing venture.	(1) Woodside assessment: Woodside notes that none of AIMS' activities will be impacted. Woodside response: Woodside noted AIMS' advice that none of its activities would be impacted by the ongoing operations related to this EP.	(1) Not required.
While feedback has been received, there were no objections or claims.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While AIMS is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for AIMS to provide feedback during the consultation process.		

Commonwealth Scientific and Industrial Research Organisation (CSIRO)

Summary of information provided and record of consultation for this EP: On 13 September 2023, Woodside emailed CSIRO advising of the proposed activity (Record of Consultation, reference 1.3) and provided a Consultation Information Sheet and a link to NOPSEMA's brochure <i>Consultation on offshore petroleum environment plans: Information for the community</i>.
--

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

On 16 October 2023, Woodside sent a reminder email to CSIRO following up on the proposed activity (Record of Consultation, reference 2.1) and included a link to the Consultation Information Sheet on Woodside's website.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While CSIRO is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for CSIRO to provide feedback during the consultation process.		

Other

Member of the public [Individual 63]

Summary of information provided and record of consultation for this EP: (1) On 14 September 2023, [Individual 63] phoned Woodside's feedback line and raised concerns regarding the clarity of the map in the advertisement for consultation on this EP which appeared in the West Australian newspaper on 13 September 2023 (Record of Consultation, reference 5.1.2). - On 14 September 2023, Woodside phoned [Individual 63] to discuss their concerns (SI Report, reference 73.1). Woodside: (1) Advised it had reviewed the advertisement and the Operational Area and EMBA were clear in the map, and that the advertisement had also run in numerous other newspapers where the map was clear. (1) Offered to email a copy of the map to the member of the public, however the offer was declined.		
Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim and Woodside's Response	Inclusion in Environment Plan
(1) A member of the public, [Individual 63] phoned Woodside with concerns regarding the clarity of	(1) Woodside assessment: Woodside reviewed the map and determined that it clearly shows the Operational Area and EMBA.	(1) Not required.

the map in a newspaper advertisement regarding consultation for this EP.	Woodside response: Woodside phoned the member of the public and advised it had reviewed the map, which clearly showed the Operational Area and EMBA. Woodside offered to email a copy of the map to the member of the public however the offer was declined.	
While feedback has been received, there were no objections or claims.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.6.1 of the EP).	No additional measures or controls are required.
Outcomes of consultation		
While [Individual 63] is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for [Individual 63] to provide feedback during the consultation process.		

Record Of Consultation

1.	INITIAL CONSULTATION	518
1.1	Consultation Information Sheet	518
1.2	Summary Consultation Sheet	532
1.3	Email sent to Australian Border Force (ABF), Department of Foreign Affairs and Trade (DFAT), Department of Transport (DoT), Ningaloo Coast World Heritage Advisory Committee (NCWHAC), Department of Biodiversity, Conservation and Attractions (DBCA), Department of Industry, Science and Resources (DISR), Department of Mines, Industry Regulation and Safety (DMIRS), Australian Energy Producers (AEP) (Formerly Australian Petroleum Production and Exploration Association), University of Western Australia (UWA), Western Australian Marine Science Institution (WAMSI), Australian Institute of Marine Science (AIMS), Commonwealth Scientific and Industrial Research Organisation (CSIRO) - 13 September 2023	538
1.4	Email sent to Shire of Carnarvon (13 September 2023)	541
1.5	Email sent to Western Gas, Exxon Mobil Australia Resources Company, Shell Australia, BP Developments Australia, PE Wheatstone, Kyushu Electric Wheatstone, Eni Australia, Finder Energy, Jadestone, KUFPEC, Vermilion Oil & Gas, Santos NA Energy Holdings / Santos Ltd / Santos WA Northwest / Santos Offshore / Santos WA Southwest / Santos (BOL) / Santos WA PVG/ Santos Browse, Coastal Oil and Gas, Bounty Oil and Gas, OMV Australia / Sapura OMV Upstream, KATO Energy / KATO Corowa / KATO NWS / KATO Amulet, INPEX Alpha, JX Nippon O&G Exploration (Australia), 3D Oil Ltd, AGI Tubridgi P/L, Good Earth Energy Corporation, Pathfinder Energy P/L, Pilot Energy Ltd, Petro China International Investment, Triangle Energy, VRX Silica Ltd, Beach Energy, Origin Energy Browse, Strike Energy, Carnarvon Energy (14 September 2023)	545
1.6	Email sent to Exmouth Recreational Marine Users, Karratha Recreational Marine Users, Christmas Island Recreational Marine Users, Recfishwest, Marine Tourism Association, WA Game Fishing Association – 14 September 2023.....	548
1.7	Email sent to Department of Defence (DoD) (15 September 2023).....	552
1.8	Defence zone map sent to Department of Defence	556
1.9	Email sent to Department of Climate Change, Energy, the Environment and Water (DCCEEW) (15 September 2023)	556
1.10	Email sent to Western Australian Museum (15 September 2023)	560
1.11	Email sent to Department of Planning, Lands and Heritage (DPLH) (15 September 2023).....	563
1.12	Email sent to Chevron Australia Osaka Gas Gorgon, Tokyo Gas Gorgon, JERA Gorgon (15 September 2023)	567
1.13	Email sent to Australian Hydrographic Office (AHO), Australian Maritime Safety Authority (AMSA) – Marine Safety (15 September 2023)	570
1.14	Shipping lane map sent to AHO and AMSA	574
1.15	Email sent to Australian Maritime Safety Authority (AMSA) – Marine Pollution (15 September 2023)	574
1.16	Email sent to Onslow Chamber of Commerce and Industry (15 September 2023)	578
1.17	Email sent to Shire of Ashburton (15 September 2023).....	581
1.18	Email sent to Shire of Exmouth (15 September 2023).....	585
1.19	Email to City of Karratha (15 September 2023)	588
1.20	Email to Town of Port Hedland (15 September 2023)	592
1.21	Email sent to Shire of Broome (18 September 2023)	595
1.22	Email sent to Broome Chamber of Commerce and Industry (18 September 2023).....	599
1.23	Email sent to Carnarvon Chamber of Commerce and Industry (18 September 2023).....	602
1.24	Email sent to Shire of Derby/West Kimberley (18 September 2023)	606
1.25	Email sent to Exmouth Community Liaison Group (18 September 2023).....	609
1.26	Email sent to Karratha Community Liaison Group (18 September 2023)	613
1.27	Email sent to Port Hedland Chamber of Commerce and Industry (18 September 2023).....	616

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 510 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

1.28	Email sent to Derby Chamber of Commerce and Industry, Mid West Chamber of Commerce and Industry, East Kimberley Chamber of Commerce and Industry (18 September 2023).....	620
1.29	Email sent to Shire of Wyndham/East Kimberley, Shire of Shark Bay, City of Greater Geraldton, Shire of Chapman Valley, Shire of Dandaragan, Shire of Gingin, Shire of Northampton, Shire of Christmas Island, Pilbara Ports, Kimberley Ports Authority, Mid West Ports Authority (19 September 2023)	623
1.30	Email sent to Director of National Parks (DNP) (19 September 2023).....	627
1.31	Email sent to WAFIC (20 September 2023).....	631
1.32	Email sent to Mackerel Managed Fishery (Area 2), West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery and Pilbara Trap Managed Fishery, via WAFIC (21 September 2023).....	635
1.33	Email sent to Department of Agriculture Fisheries and Forestry (DAFF) – Fisheries (20 September 2023)	638
1.34	Email sent to Australian Fisheries Management Authority (AFMA) (20 September 2023).....	643
1.35	Email sent to Protect Ningaloo, Cape Conservation Group (21 September 2023)	647
1.36	Email sent to City of Albany, City of Bunbury, City of Busselton, Town of Cambridge, Shire of Capel, Shire of Carnamah, City of Cockburn, Shire of Cocos (Keeling) Islands, Shire of Coorow, Shire of Denmark, Town of Cottesloe, Shire of Dundas, Shire of Esperance, City of Fremantle, Shire of Harvey, Shire of Irwin, Shire of Jerramungup, City of Joondalup, City of Mandurah, Shire of Kwinana, Shire of Manjimup, Town of Mosman Park, Shire of Nannup, City of Nedlands, City of Rockingham, City of Stirling, City of Wanneroo, Shire of Waroona, Shire of Ravensthorpe, Shire of Augusta Margaret River, Margaret River Chamber of Commerce and Industry, Southern Ports (Albany), Southern Ports (Bunbury), Fremantle Port Authority (21 September 2023) .	651
1.37	Email sent to Tuna Australia, Commonwealth Fisheries Association (CFA), North West Slope and Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Northern Prawn Fishery, Christmas Island Line Fishery (22 September 2023)	655
1.38	Email sent to Department of Primary Industries and Regional Development (DPIRD) (22 September 2023)	659
1.39	Email sent to NT Fisheries (22 September 2023).....	664
1.40	Email sent to Northern Territory Department of Industry, Tourism and Trade (DITT) – Mining and Energy; Northern Territory Department of Environment, Parks and Water Security (DEPWS); Northern Territory Environment Protect Authority (NTEPA) (22 September 2023)	669
1.41	Letter sent to Gascoyne Recreational Marine Users, Pilbara/Kimberley Recreational Marine Users, South Coast Recreational Marine Users, West Coast Recreational Marine Users (22 September 2023).....	672
1.42	Letter sent to Northern Territory Aquarium Fish/Display Fish Fishery, Northern Territory Spanish Mackerel Fishery, Northern Territory Offshore Net & Line Fishery, Northern Territory Demersal Fishery, Northern Territory Mud Crab Fishery, Northern Territory Mollusc Fishery, Northern Territory Aquaculture Fishery (22 September 2023)	677
1.43	Letter sent to Christmas Island Line Fishery licence holder.....	682
1.44	Email sent to 350 Australia (350A), Greenpeace Australia Pacific (GAP), Australian Conservation Foundation (ACF), Australian Marine Conservation Society (AMCS), Conservation Council of Western Australia (CCWA), Sea Shepherd Australia (SSA) (26 September 2023).....	686
1.45	Email sent to Pearl Producers Association (26 September 2023)	689
1.46	Letter sent to Allasso Energy Pty Ltd, AWE Perth Pty Ltd, PBE Operations Pty Ltd (26 September 2023)	693
1.47	Email sent to Skye Napoleon; Petroleum; Resources (27 September 2023).....	698
1.48	Email sent to New Zealand Oil and Gas (NZOG) Compass (27 September 2023)	701
1.49	Email sent to Karratha and Districts Chamber of Commerce and Industry (27 September 2023)	704
1.50	Email sent to Exmouth Chamber of Commerce and Industry (27 September 2023)	708
1.51	Email sent to Jurien Bay Chamber of Commerce and Industry, Lancelin Chamber of Commerce and Industry, Albany Chamber of Commerce and Industry, Bunbury Geographe Chamber of Commerce and Industry, Busselton Chamber of Commerce and Industry, Dunsborough Yallingup Chamber of Commerce and Industry, Capel Chamber of Commerce and Industry, Melville Cockburn Chamber of Commerce and Industry, Denmark Chamber of Commerce and Industry, Esperance Chamber of Commerce and Industry, Fremantle Chamber of Commerce and Industry, Peel Chamber of Commerce and Industry, Rockingham Kwinana Chamber of Commerce and Industry, Manjimup Chamber of Commerce and Industry, Nannup Chamber of Commerce and Industry, Augusta Chamber of Commerce and Industry (27 September 2023).....	712

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 511 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

1.52	Email sent to Shire of East Pilbara (2 October 2023)	716
1.53	Letter sent to Cocos (Keeling) Islands Marine Aquarium Fishery (3 October 2023)	720
1.54	Letter sent to Christmas Island Recreational Marine User (4 October 2023)	725
1.55	Email sent to National Energy Resources Australia (NERA) (5 October 2023)	730
1.56	Email sent to Australian Southern Blue Tuna Industry Association (ASBTIA) (12 October 2023)	733
1.57	Email sent to Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (16 October 2023)	737
1.58	Email sent to Northern Prawn Fishery Industry Pty Ltd (18 October 2023)	742
1.59	Email sent to Western Rock Lobster Council (30 October 2023)	746
1.60	Email sent to Shire of Shark Bay (31 October 2023)	752
1.61	Email sent to Department of Biodiversity, Conservation and Attractions' (DBCA) Shark Bay office (31 October 2023)	753
1.62	Email sent to [Individual 1] MLA, Shark Bay Aviation, Mac Attack Fishing Charters, Shark Bay Charters, Shark Bay Coastal Tours, Naturetime Tours, Perfect Nature Cruises, Shark Bay Community Resource Centre, Wula Gura Nyinda Eco Cultural Tours, Ocean Park, Tidal Moon, RAC Monkey Mia, Dirk Hartog Island (31 October 2023)	755
1.63	Email sent to Murujuga Aboriginal Corporation (MAC) (17 November 2023)	757
1.64	Email sent to Nganhurra Thanardi Garbu Aboriginal Corporation (NTGAC) (23 October 2023)	759
1.65	Email sent to Buurabayji Thalanyji Aboriginal Corporation (BTAC) (11 October 2023)	760
1.66	Email sent to Yinggarda Aboriginal Corporation (YAC) (11 October 2023)	762
1.67	Email sent to Kariyarra Aboriginal Corporation (18 October 2023)	764
1.68	Email sent to Wirrawandi Aboriginal Corporation (WAC) (3 October 2023)	765
1.69	Email sent to Robe River Kuruma Aboriginal Corporation (RRKAC) (3 October 2023)	767
1.70	Email sent to Ngarluma Aboriginal Corporation (NAC) (17 November 2023)	768
1.71	Email sent to NYFL on behalf of both NYFL and Yindjibarndi Aboriginal Corporation (19 October 2023)	770
1.72	Email sent to Wanparta Aboriginal Corporation (5 October 2023)	771
1.73	Email sent to Malgana Aboriginal Corporation (11 October 2023)	773
1.74	Email sent to Ngadju Native Title Aboriginal Corporation (16 October 2023)	775
1.75	Email sent to Balanggarra Aboriginal Corporation (2 October 2023)	777
1.76	Email sent to Dambimangari Aboriginal Corporation (2 October 2023)	778
1.77	Email sent to Kimberley Land Council (19 October 2023)	780
1.78	Email sent to Nanda Aboriginal Corporation (23 October 2023)	781
1.79	Email sent to Gogolanyngor Aboriginal Corporation (GAC) (6 October 2023)	783
1.80	Email sent to Wanjina-Wunggurr (Native Title) Aboriginal Corporation (WWAC) (2 October 2023)	785
1.81	Email sent to Karajarri Traditional Lands Association (Aboriginal Corporation) (KTLA) (2 October 2023)	786
1.82	Email sent to Mayala Inninalang Aboriginal Corporation (13 October 2023)	788
1.83	Email sent to Nyangumarta Warrarn Aboriginal Corporation (2 October 2023)	789
1.84	Email sent to Nyangumarta Karajarri Aboriginal Corporation (13 October 2023)	791
1.85	Email sent to Yawuru Native Title Holders Aboriginal Corporation (19 October 2023)	792
1.86	Email sent to Esperance Tjaltjiraak Native Title Aboriginal Corporation (ETNTAC) (3 October 2023)	794
1.87	Email sent to Bundi Yamatji Aboriginal Corporation (11 October 2023)	795
1.88	Email to Gnaala Karla Booja Aboriginal Corporation (11 October 2023)	797
1.89	Email to Karri Karrak Aboriginal Corporation (11 October 2023)	799
1.90	Email to Wagyl Kaip Southern Noongar Aboriginal Corporation (31 October 2023)	800
1.91	Email sent to Whadjuk Aboriginal Corporation (9 October 2023)	802
1.92	Email sent to Yued Aboriginal Corporation (9 October 2023)	804
1.93	Email to Wilinggin Aboriginal Corporation (13 October 2023)	805

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 512 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

1.94	Email to Mirning Traditional Lands Aboriginal Corporation (4 October 2023)	807
1.95	Email sent to Wunambal Gaambera Aboriginal Corporation (WGAC) (2 November 2023)	808
1.96	Email sent to Nyul Nyul PBC Aboriginal Corporation (NNAC) (6 October 2023)	809
1.97	Email sent to Lombadina Aboriginal Corporation (LAC) (6 October 2023)	811
1.98	Email sent to Bardi and Jawi Niimidiman Aboriginal Corporation (BJNAC) (23 November 2023)	813
1.99	Email sent to Amateur Fishermen's Association of the NT (15 December 2023)	814
1.100	Email sent to Northern Territory Department of Infrastructure, Planning and Logistics (DIPL) - Marine Safety; Department of Infrastructure, Tourism and Trade (DITT) - Aquatic Biosecurity; Indian Ocean Territories Regional Development Organisation; Port of Christmas Island; Christmas Island Business Association (15 December 2023)	818
1.101	Email sent to Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA); Shire of Christmas Island - Fisheries Management Committee (15 December 2023)	822
1.102	Email sent to Northern Territory Seafood Council (NTSC) (15 December 2023)	826
1.103	Email sent to Port of Cocos (Keeling) Island (18 December 2023)	831
1.104	Email sent to Yamatji Marpa Aboriginal Corporation (YMAC) (23 October 2023)	835
1.105	Email sent to Yawoorroong Miriuwung Gajerrong Yirrgeb Noong Dawang (MG Corp) (13 October 2023)	836
1.106	Email sent to Northern Land Council (NLC) – 17 February 2025	837
1.107	Email sent to Environs Kimberley (17 February 2025)	839
1.108	Email sent to Beagle No 1 and Longreach Capital (17 February 2025)	841
1.109	Email sent to InCapture; SK Earthon; Mitsui E&P Australia (MEPAU); Energy Resources; DeepC Store; H2EX Ltd; Melbana Energy Limited (18 February 2025)	843
1.110	Email sent to Aquaculture Council of Western Australia (ACWA) (19 February 2025)	846

2. FOLLOW-UP CONSULTATION 848

2.1	Email sent to Australian Border Force (ABF), Department of Foreign Affairs and Trade (DFAT), Ningaloo Coast World Heritage Advisory Committee (NCWHAC), Department of Biodiversity, Conservation and Attractions (DBCA), Department of Industry, Science and Resources (DISR), Department of Planning, Lands and Heritage (DPLH), Department of Defence (DoD), Department of Mines, Industry Regulation and Safety (DMIRS), Australian Energy Producers (AEP – formerly Australian Petroleum Production and Exploration Association), University of Western Australia (UWA), Western Australian Marine Science Institution (WAMSI), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australian Hydrographic Office (AHO), Chevron, Western Gas, Exxon Mobil Australia Resources Company, Shell Australia, Kyushu Electric Wheatstone, Eni Australia, FINDER Energy No 16, Jadestone, KUFPEC, Vermilion Oil & Gas, Coastal Oil and Gas, Bounty Oil and Gas, OMV Australia / Sapura OMV Upstream, KATO Energy / KATO Corowa / KATO NWS / KATO Amulet, INPEX Alpha, JX Nippon O&G Exploration (Australia), 3D Oil Ltd, AGI Tubridgi P/L, Good Earth Energy Corporation, Pathfinder Energy P/L, Pilot Energy Ltd, Petro China International Investment, Triangle Energy, VRX Silica Ltd, Beach Energy, Origin Energy Browse, Strike Energy, Shire of Carnarvon, Exmouth Recreational Marine Users, Karratha Recreational Marine Users, Christmas Island Recreational Marine Users, Recfishwest, Marine Tourism Association, WA Game Fishing Association, Australian Maritime Safety Authority – Marine Pollution, Onslow Chamber of Commerce and Industry, Shire of Exmouth, City of Karratha, Town of Port Hedland, Broome Chamber of Commerce and Industry, Carnarvon Chamber of Commerce and Industry, Shire of Derby West Kimberley, Exmouth Community Liaison Group, Karratha Community Liaison Group, Port Hedland Chamber of Commerce and Industry, Shire of Wyndham/East Kimberley, Shire of Shark Bay, City of Greater Geraldton, Shire of Chapman Valley, Shire of Dandaragan, Shire of Gingin, Shire of Northampton, Shire of Christmas Island, Pilbara Ports, Kimberley Ports Authority, Mid West Ports Authority, Derby Chamber of Commerce and Industry, Mid West Chamber of Commerce and Industry, East Kimberley Chamber of Commerce and Industry, Director of National Parks (DNP), Department of Primary Industry and Regional Development (DPIRD), Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries, NT Fisheries, Northern Territory Department of Industry, Tourism and Trade (DITT) – Mining and Energy, Northern Territory Department of Environment, Parks and Water Security (DEPWS), Northern Territory Environment Protection Authority (NTEPA) (16 October 2023)	848
2.2	Email sent to City of Albany, City of Bunbury, City of Busselton, Town of Cambridge, Shire of Capel, Shire of Carnamah, City of Cockburn, Shire of Cocos (Keeling) Islands, Shire of Coorow, Shire of Denmark, Town of Cottesloe, Shire of Dundas, Shire of Esperance, City of Fremantle, Shire of Harvey, Shire of Irwin, Shire	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 513 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

of Jerramungup, City of Joondalup, City of Mandurah, Shire of Kwinana, Shire of Manjimup, Town of Mosman Park, Shire of Nannup, City of Nedlands, City of Rockingham, City of Stirling, City of Wanneroo, Shire of Waroona, Shire of Ravensthorpe, Shire of Augusta Margaret River, Margaret River Chamber of Commerce and Industry, Southern Ports (Albany), Southern Ports (Bunbury), Fremantle Port Authority, Jurien Bay Chamber of Commerce and Industry, Lancelin Chamber of Commerce and Industry, Albany Chamber of Commerce and Industry, Bunbury Geographe Chamber of Commerce and Industry, Busselton Chamber of Commerce and Industry, Dunsborough Yallingup Chamber of Commerce and Industry, Capel Chamber of Commerce and Industry, Melville Cockburn Chamber of Commerce and Industry, Denmark Chamber of Commerce and Industry, Esperance Chamber of Commerce and Industry, Fremantle Chamber of Commerce and Industry, Peel Chamber of Commerce and Industry, Rockingham Kwinana Chamber of Commerce and Industry, Manjimup Chamber of Commerce and Industry, Nannup Chamber of Commerce and Industry, Augusta Chamber of Commerce and Industry (18 October 2023)	849
2.3 Email sent to Commonwealth Fisheries Association (CFA), North West Slope and Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Northern Prawn Fishery, Christmas Island Line Fishery (18 October 2023)	850
2.4 Letter sent to Northern Territory Aquarium Fish/Display Fishery, Northern Territory Spanish Mackerel Fishery, Northern Territory Offshore Net & Line Fishery, Northern Territory Demersal Fishery, Northern Territory Mud Crab Fishery, Northern Territory Mollusc Fishery, Northern Territory Aquaculture Fishery (16 October 2023)U	851
2.5 Letter sent to Gascoyne Recreational Marine Users, Pilbara/Kimberley Recreational Marine Users, South Coast Recreational Marine Users, West Coast Recreational Marine Users (16 October 2023)	854
2.6 Letter sent to Allasoo Energy Pty Ltd, AWE Perth Pty Ltd, PBE Operations Pty Ltd (16 October 2023)	856
2.7 Email sent to Shire of East Pilbara (24 October 2023)	858
2.8 Letter sent to Christmas Island Recreational Marine User (24 October 2023)	858
2.9 Letter sent to Cocos (Keeling) Islands Marine Aquarium Fishery (24 October 2023)	861
2.10 National Energy Resources Australia (NERA) (30 October 2023)	863
2.11 Email sent to Tuna Australia (31 October 2023)	863
2.12 Email sent to Australian Southern Bluefin Tuna Industry Association (ASBTIA) (1 November 2023)	864
2.13 Email to Northern Prawn Fishery Industry (2 November 2023)	864
2.14 Email to Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (3 November 2023)	865
2.15 Email sent to Western Rock Lobster Council (13 November 2023)	865
2.16 Email sent to Director of National Parks (DNP) and Ningaloo Coast World Heritage Advisory Committee (NCWHAC) (9 November 2023)	866
2.17 Letter sent to Christmas Island Line Fishery licence holder (16 October 2023)	867
2.18 Email sent to [Individual 1] MLA, Shark Bay Aviation, Mac Attack Fishing Charters, Shark Bay Charters, Shark Bay Coastal Tours, Naturetime Tours, Perfect Nature Cruises, Shark Bay Community Resource Centre, Wula Gura Nyinda Eco Cultural Tours, Ocean Park, Tidal Moon, RAC Monkey Mia, Dirk Hartog Island; Shire of Shark Bay; Department of Biodiversity, Conservation and Attractions Shark Bay office (15 December 2023)	869
2.19 Email sent to Amateur Fishermen's Association of the Northern Territory; Northern Territory Seafood Council; Shire of Christmas Island's Fisheries Management Committee; Northern Territory Department of Infrastructure, Planning and Logistics (DIPL) - Marine Safety;; Department of Infrastructure, Tourism and Trade (DITT) - Aquatic Biosecurity); Indian Ocean Territories Regional Development Organisation; Port of Christmas Island; Christmas Island Business Association; Department of Infrastructure, Regional Development, Transport, Communications and the Arts (DITRDCA) (9 January 2024)	869
2.20 Email sent to Port of Cocos (Keeling) Island (12 January 2024)	870
2.21 Email sent to Longreach Capital; Beagle No 1; Environs Kimberley; Aquaculture Council of Western Australia (ACWA) (10 March 2025)	872
2.22 Email sent to SK Earthon; Mitsui E&P Australia (MEPAU); Energy Resources; DeepC Store; H2EX Ltd; Melbana Energy Limited (10 March 2025)	872
3. CONSULTATION UPDATE (FEBRUARY 2025)	873
3.1 Updated Consultation Information Sheet	874

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 514 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

3.2	Email sent to Northern Territory Seafood Council, Department of Infrastructure, Planning and Logistics (DIPL) – Marine Safety; Department of Industry, Tourism and Trade (DITT) – Aquatic Biosecurity (17 February 2025)	886
3.3	Email sent to Department of Industry, Tourism and Trade (DITT) – Mining and Energy; Department of Industry, Tourism and Trade (DITT) – NT Fisheries; Shire of Derby/West Kimberley; Derby Chamber of Commerce and Industry; East Kimberley Chamber of Commerce and Industry; Shire of Harvey; Shire of Wyndham/East Kimberley; Department of Environment, Parks and Water Security (DEPWS); Northern Territory Environment Protection Agency (NTEPA); Northern Prawn Fishery individual licence holders; (17 February 2025)	887
3.4	Email sent to Northern Prawn Fishery Industry Pty Ltd (17 February 2025)	888
3.5	Email sent to Australian Fisheries Management Authority (AFMA) (17 February 2025)	889
3.6	Email sent to Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries; Commonwealth Fisheries Association (CFA) (17 February 2025)	891
3.7	Email sent to Department of Defence (DOD) (17 February 2025)	892
3.8	Email sent to Director of National Parks (DNP) (17 February 2025)	893
3.9	Email sent to Department of Foreign Affairs and Trade (DFAT) (18 February 2025)	894
3.10	Email sent to Australian Maritime Safety Authority (AMSA) – Marine Safety; Australian Hydrographic Office (AHO) (18 February 2025)	896
3.11	Email sent to Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (18 February 2025)	897
3.12	Email sent to Amateur Fishermen's Association of the Northern Territory; Northern Territory Guided Fishing Industry Association (NTGFIA); Australian Maritime Safety Authority (AMSA) – Marine Pollution; Western Australian Museum (WAM); Department of Planning, Lands and Heritage (DPLH); Department of Climate Change, Energy, the Environment and Water (DCCEEW); 18 February 2025)	898
3.13	Email sent to Department of Transport (DoT) (18 February 2025)	899
3.14	Email sent to Department of Energy, Mines, Industry Regulation and Safety (DEMIRS); Department of Industry, Science and Resources (DISR) (18 February 2025)	900
3.15	Email sent to Department of Primary Industries and Regional Development (DPIRD) (20 February 2025)	902
3.16	Email sent to Western Australian Fishing Industry Council (WAFIC) (20 February 2025)	903
3.17	Email sent to Australian Border Force (ABF) (20 February 2025)	904
3.18	Email sent to Department of Biodiversity, Conservation and Attractions (DBCA) (21 February 2025)	906
3.19	Email sent to Shire of Chapman Valley; Shire of Waroona (26 February 2025)	907
3.20	Email sent to Mid West Geothermal Power (26 February 2025)	908
3.21	Email sent to Kimberley Ports Authority (27 February 2025)	909
3.22	Updated shipping lane map	910
3.23	Updated defence zone map	911
3.24	Updated State Historical Shipwrecks list	912
3.25	Updated Commonwealth Historical Shipwrecks list	915
3.26	Updated Summary Information Sheet	919
3.27	Email sent to Balanggarra Aboriginal Corporation – 17 February 2025	923
4.	CONSULTATION UPDATE (FOLLOW-UP) (MARCH 2025)	924
4.1	Email sent to Northern Territory Seafood Council; Email sent to Department of Industry, Tourism and Trade (DITT) – Mining and Energy; Department of Industry, Tourism and Trade (DITT) – NT Fisheries; Shire of Derby/West Kimberley; Derby Chamber of Commerce and Industry; East Kimberley Chamber of Commerce and Industry; Shire of Harvey; Shire of Wyndham/East Kimberley; Department of Environment, Parks and Water Security (DEPWS); Northern Territory Environment Protection Agency (NTEPA); Northern Prawn Fishery individual licence holders; Department of Infrastructure, Planning and Logistics (DIPL) – Marine Safety; Department of Industry, Tourism and Trade (DITT) – Aquatic Biosecurity; Director of National Parks (DNP); Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries; Department of Defence (DoD); Commonwealth Fisheries Association (CFA), Northern Prawn Fishery Industry Pty Ltd (10 March 2025)	924

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 515 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

4.2	Email sent to Department of Foreign Affairs and Trade (DFAT); Australian Maritime Safety Authority (AMSA) – Marine Safety; Australian Hydrographic Office (AHO); Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity; Amateur Fishermen’s Association of the Northern Territory; Department of Transport (DoT); Northern Territory Guided Fishing Industry Association (NTGFIA); Australian Maritime Safety Authority (AMSA) – Marine Pollution; Department of Planning, Lands and Heritage (DPLH); Western Australian Museum; Department of Climate Change, Energy, the Environment and Water (DCCEEW) (11 March 2025) ..	925
4.3	Email sent to Western Australian Fishing Industry Council (WAFIC); Department of Primary Industries and Regional Development (DPIRD); Australian Border Force (ABF) (11 March 2025)	926
4.4	Email sent to Department of Biodiversity, Conservation and Attractions (DBCA) (11 March 2025) ..	927
4.5	Email sent to Department of Energy, Mines, Industry Regulation and Safety (DEMIRS); Department of Industry, Science and Resources (DISR) (14 March 2025)	927
4.6	Email sent to Shire of Chapman Valley; Shire of Waroona (19 March 2025)	928
4.7	Email sent to Kimberley Ports Authority (19 March 2025)	929

5. NEWSPAPER ADVERTISEMENTS, SOCIAL MEDIA CAMPAIGNS, COMMUNITY INFORMATION SESSIONS..... 930

5.1	Newspaper advertisements – EP consultation (September 2023)	931
5.1.1	The Australian (13 September 2023)	931
5.1.2	The West Australian (13 September 2023)	932
5.1.3	The NT News (13 September 2023)	933
5.1.4	Pilbara News (13 September 2023)	934
5.1.5	North West Telegraph (13 September 2023)	935
5.1.6	Midwest Times (13 September 2023)	936
5.1.7	Manjimup- Bridgetown Times (13 September 2023)	937
5.1.8	Kalgoorlie Miner (13 September 2023)	938
5.1.9	Broome Advertiser (14 September 2023)	939
5.1.10	South Western Times (14 September 2023)	940
5.1.11	Kimberley Echo (14 September 2023)	941
5.1.12	Albany Advertiser (14 September 2023)	942
5.1.13	Countryman (14 September 2023)	943
5.1.14	Narrogin Observer (14 September 2023)	944
5.1.15	Great Southern Herald (14 September 2023)	945
5.1.16	Augusta Margaret River Times (15 September 2023)	946
5.1.17	Busselton Dunsborough Times (15 September 2023)	947
5.1.18	Geraldton Guardian (15 September 2023)	948
5.1.19	Harvey Waroona Reporter (19 September 2023)	949
5.1.20	Koori Mail (20 September 2023)	950
5.1.21	National Indigenous Times (26 September 2023)	951
5.2	Social media campaign – Environment Plan consultation	952
5.3	Pilbara region community activities	952
5.3.1	Community information sessions – Karratha, Port Hedland and Roebourne – 18, 19 and 20 September 2023 respectively	952
5.3.2	Pilbara Summit – 10 and 11 October 2023	960
5.3.3	Community information sessions – Carnarvon and Denham – 16 and 17 October 2023	961
5.3.4	Dampier Beachside Twilight Markets – 4 November 2023	966
5.3.5	Dampier Seaside Markets – 24 March 2024	973
5.3.6	WA Day Festival – 15 June 2024	976
5.3.7	Pilbara Summit – 26 to 27 June 2024	979
5.3.8	Community pop-up at Lo’s Cafe – 26 July 2024	982

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 516 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

<u>5.3.9</u>	<u>FeNaCING Festival – 3 to 4 August 2024</u>	985
<u>5.3.10</u>	<u>Developing Northern Australia (DNA conference) – 26 to 28 August 2024</u>	994
<u>5.3.11</u>	<u>Dampier Beachside Markets – 12 October 2024</u>	996
<u>5.3.12</u>	<u>Dampier Beachside Markets – 2 November 2024</u>	999
<u>5.3.13</u>	<u>Dampier Community Association – Who’s Who in the Hood – 18 March 2025</u>	1002
<u>5.3.14</u>	<u>Dampier Beachside Markets – 6 April 2025</u>	1004
<u>5.4</u>	<u>Gascoyne region community activities</u>	1005
<u>5.4.1</u>	<u>Community information session – Exmouth – 23 October 2023</u>	1007
<u>5.4.2</u>	<u>Exmouth Community Markets – 19 May 2024</u>	1010
<u>5.4.3</u>	<u>Exmouth Community Information Session – 14 November 2024</u>	1014
<u>5.5</u>	<u>Community newsletters</u>	1017
<u>5.5.1</u>	<u>Let’s Talk – Our Plans, Your Say</u>	1022

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 517 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

1. Initial Consultation

1.1 Consultation Information Sheet



NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

CARNARVON BASIN, NORTH-WEST AUSTRALIA

Woodside consults relevant persons in the course of preparing an environment plan (EP) to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that may be taken to lessen or avoid potential adverse effects of the proposed activity on the environment. This is the intended outcome of consultation.

Woodside's aim is to ensure activities are carried out in a manner that is consistent with the principles of ecologically sustainable development (ESD), by which the environmental impacts and risks of the activity are reduced to as low as reasonably practicable (ALARP) and of an acceptable level. Woodside want relevant persons whose functions, interests or activities that may be affected by the proposed activity to have the opportunity to identify themselves and provide feedback on our proposed activity, in accordance with the intended outcome of consultation.

Woodside is consulting for both the:

- Pyrenees Floating Production, Storage and Offloading (FPSO) and associated subsea infrastructure (Pyrenees Facilities) Operations EP; and
- Ngujima-Yin Floating Production, Storage and Offloading (FPSO) and associated subsea infrastructure (Ngujima-Yin Facilities) Operations EP, together with their operations and associated activities are similar, and located 13 km apart in adjacent title areas.

Overview

Woodside will submit a five year revision of the Operations EPs for the Pyrenees and Ngujima-Yin Facilities located in Commonwealth waters, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (regulations).

Operations began in 2008 for the Ngujima-Yin Facilities and 2010 for Pyrenees Facilities.

Activity Overview

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Facilities.

The activities that will continue at the Pyrenees and Ngujima-Yin Facilities are:

- Routine oil production, crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.

In addition to the above, the revised Ngujima-Yin Facility EP will also include:

- Production from an additional two wells via a subsea tieback to existing infrastructure and the operation of a new fuel gas flowline. The proposed wells will be located within the Operational Area (Figure 2). The location of the proposed flowline can be seen in Figure 2 and will originate from either the Pyrenees or Macedon field.

Drilling, construction and installation activities associated with the Ngujima-Yin tieback and fuel gas project will be subject to separate future EPs.

Stylised figures showing the existing Pyrenees Facilities are shown in Figure 3. Figure 4 shows the existing Ngujima-Yin Facilities. These figures are not to scale and are for illustration purposes.

Future decommissioning of infrastructure will be subject to separate future EPs.

Vessels

During normal operations, vessels will typically be limited to supply/support vessels and IMMR vessels. The vessel size and type will be dependent on the work scope. Vessels are not planned to anchor/moor on the seabed except in emergency situations. Offtake tankers will be used for offloading operations in both fields. It is anticipated vessels will operate 24 hours per day for the duration of activities.

Location and Operations

The Pyrenees FPSO is located about 45 km north of Exmouth, Western Australia, with the subsea facilities located within the Production Licenses WA-42-L and WA-43-L, and in water depths ranging from approximately 180 to 215 m (Figure 1). The Pyrenees FPSO is connected to the adjacent Macedon gas field located approximately 6 km southeast of the FPSO. The Macedon field is also operated by Woodside, and the connection allows gas to be supplied from the Macedon gas field for fuel gas on the FPSO, or produced via the Macedon subsea infrastructure to the onshore Macedon Gas Plant for domestic gas production.

The Ngujima-Yin FPSO is located about 57 km north of Exmouth, Western Australia, with the subsea facilities located within Production Licenses WA-28-L, WA-59-L and Pipeline License WA-28-PL, in water depths ranging from approximately 340 to 850 m (Figure 2).

Communication with mariners

The locations of the Pyrenees FPSO and the Ngujima-Yin FPSO as well as associated subsea infrastructure are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. The Ngujima-Yin FPSO petroleum safety zone is measured from the riser turret mooring at the bow of the vessel. Vessels are not permitted within the exclusion zone without permission. In addition, a 2.5 nm (4.6 km) radius cautionary zone is also marked on nautical charts around both FPSOs.

Assessment

Woodside has undertaken an assessment of the potential impacts and risks to the environment, as well as to relevant persons arising from the planned activities and unplanned events. This assessment considers timing, duration and location of activities and events. A number of mitigation and management measures will be implemented and are summarised in Table 3. Further details will be provided in each EP being revised to manage proposed activities.

In preparing the EPs, our intent is to minimise environmental, social or cultural impacts associated with the proposed activities, and Woodside are seeking any interest or comments you may have to inform our decision making.

For the potential impacts, Woodside has defined an 'Operational Area' within which the impacts from planned activities could occur.

Both the Pyrenees FPSO and Ngulima-Yin FPSO Operational Areas comprises a 1500 m radius around the FPSO to allow for offtake activities, as well as an area within 1500 m of the subsea infrastructure including wells, flowlines, umbilicals and pipeline (for Ngulima-Yin only).

The Operational Area for the Ngulima-Yin FPSO also includes an area around the potential installation of a flowline, with two options, one with

the flowline originating from Pyrenees field and one originating from Macedon field. No infrastructure exists within the area currently, and if installed, the infrastructure would be added to nautical charts, including the introduction of any associated petroleum safety zone.

Joint Venture

Woodside is the Operator for both the Pyrenees and Ngulima-Yin Facilities, on behalf of Joint Ventures comprising of Santos and Inpex for Pyrenees Facilities and Mitsui for Ngulima-Yin Facilities.

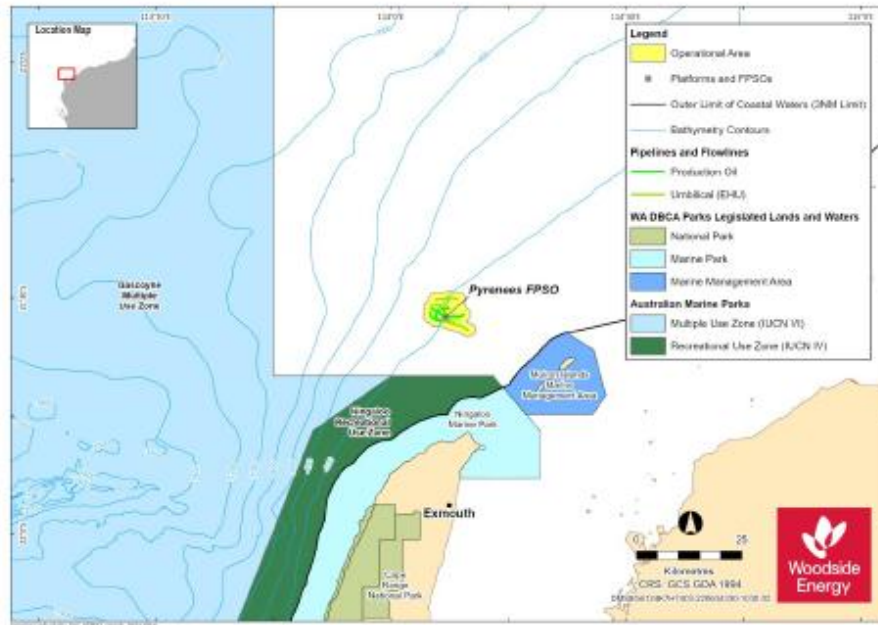


Figure 1. Pyrenees Facility Location and Operational Area

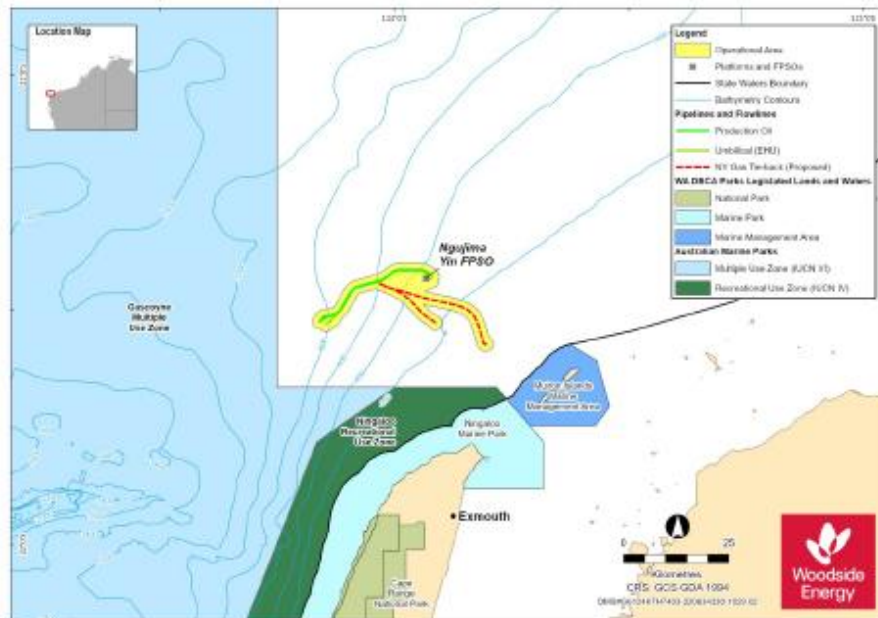


Figure 2. Ngulima-Yin Facility Location and Operational Area

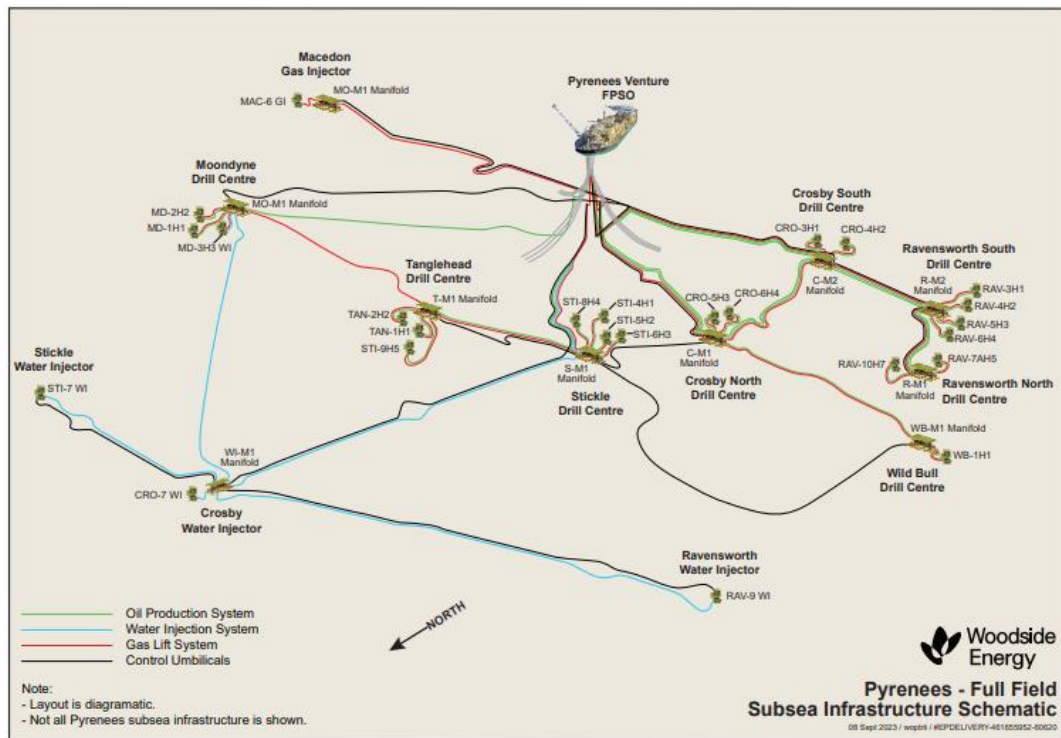


Figure 3. Overview of subsea infrastructure layout associated with the Pyrenees FPSO (not to scale)

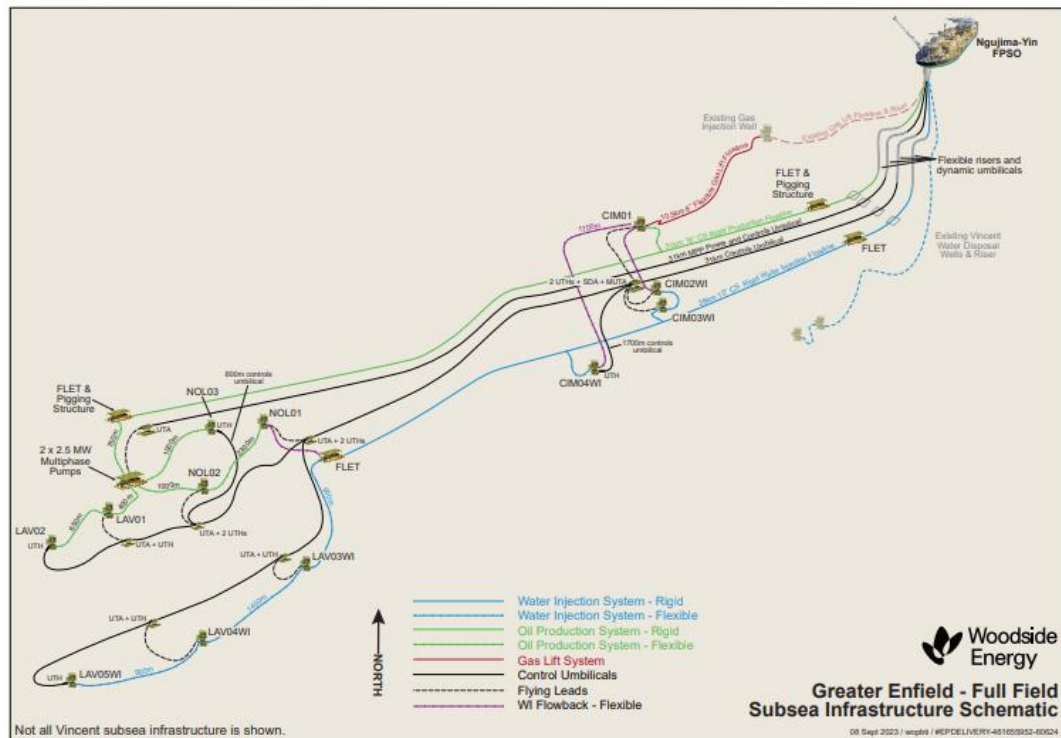


Figure 4. Overview of the subsea infrastructure layout associated with the Ngujima-Yin FPSO (not to scale)

Table 1. Activity summary

	Pyrenees Facility Operations Environment Plan	Ngujima-Yin Facility Operations Environment Plan
Facility type	Floating Production Storage and Offloading (FPSO) and associated subsea infrastructure	Floating Production Storage and Offloading (FPSO) and associated subsea infrastructure
Production License Areas	WA-42-L and WA-43-L	WA-28-L, WA-59-L and WA-28-PL
Approximate water depth	Ranging from approximately 180 to 215 m	Ranging from approximately 340 to 850 m
Commencement date	Production Commenced: 2010	Production Commenced: 2008
Approximate estimated duration	Routine Operations: Ongoing Estimated End of Field Life: 2035	Routine Operations: Ongoing Estimated End of Field Life: 2028
Infrastructure connected to the facility	Key infrastructure includes, but is not limited to: • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 midwater arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible Flowlines and Jumpers • Subsea support structures	Key infrastructure includes, but is not limited to: • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly • Flexible Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures Potential new infrastructure that could be installed in the next 5 years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Oil tanker • IMMR support vessels including multi-purpose support vessels and dive support vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offloading tanker • IMMR support vessels including multi-purpose support vessels
Operational Areas and Exclusion zones	Operational Area comprises: • Pyrenees FPSO and an area extending out to 1500 m to allow for offtake activities • Pyrenees subsea infrastructure, including wells, flowlines and associated infrastructure, and an area within 1500 m around the infrastructure Exclusion Zones: • A petroleum safety zone, comprising the length of the FPSO which is 260 m plus a 500 m safety zone, which extends to a distance of 760 m radius from the internal Turret of the Pyrenees FPSO	Operational Area comprises: • Ngujima-Yin FPSO and an area extending out to 1500 m to allow for offtake activities • Ngujima-Yin subsea infrastructure including wells, flowlines, a pipeline and associated infrastructure, and an area within 1500 m around the infrastructure. • An area within 1500 m around the proposed route of a subsea flowline either from Pyrenees or from Macedon Exclusion Zones: • A 500 m petroleum safety zone around the Ngujima-Yin FPSO
Distance to nearest town from FPSO	45 km north of Exmouth, Western Australia	57 km north of Exmouth, Western Australia
Distance to nearest marine park/nature reserve from FPSO	Pyrenees FPSO: • -14 km from the northern boundary of the Commonwealth Ningaloo Marine Park	Ngujima-Yin FPSO: • -26 km from the northern boundary of the Commonwealth Ningaloo Marine Park

Table 2. Approximate Locations

Structure	Approximate Water depth	Approximate Latitude	Approximate Longitude	Petroleum Titles
Pyrenees Facility FPSO				
Pyrenees Facility	200	21° 32' 28.12671822" S	114° 06' 58.55946505" E	WA-42-L
Production wells				
Crosby - 3H1	204	21° 32' 43.06267192" S	114° 05' 42.50447160" E	WA-42-L
Crosby - 4H2	204	21° 32' 42.98265112" S	114° 05' 40.46821800" E	WA-42-L
Crosby - 5H3	202	21° 31' 44.49422152" S	114° 06' 05.84823600" E	WA-42-L
Crosby - 6H4	202	21° 31' 44.59731472" S	114° 06' 03.83841720" E	WA-42-L
Moondyne-1H1	191	21° 32' 05.45036872" S	114° 09' 17.97139800" E	WA-42-L
Moondyne-2H2	191	21° 32' 05.47982032" S	114° 09' 19.71615240" E	WA-42-L
Ravensworth - 3H1	209	21° 32' 19.94805832" S	114° 05' 03.26322240" E	WA-43-L
Ravensworth - 4H2	209	21° 32' 18.92186752" S	114° 05' 03.37507800" E	WA-43-L
Ravensworth - 5H3	208	21° 32' 17.27543992" S	114° 05' 04.40305800" E	WA-43-L
Ravensworth - 6H4	208	21° 32' 16.56928912" S	114° 05' 04.34562360" E	WA-43-L
Ravensworth - 7H5	210	21° 31' 48.52389952" S	114° 05' 05.83185840" E	WA-42-L
Ravensworth - 8H6	210	21° 31' 46.28295712" S	114° 05' 06.99909360" E	WA-42-L
Ravensworth- 10H7	209	21° 31' 48.36774232" S	114° 05' 09.24021240" E	WA-42-L
Stickle - 4H1	199	21° 31' 23.67887032" S	114° 06' 35.28941400" E	WA-42-L
Stickle - 5H2	199	21° 31' 22.04032312" S	114° 06' 33.72709320" E	WA-42-L
Stickle - 6H3	199	21° 31' 21.55597912" S	114° 06' 33.11816040" E	WA-42-L
Stickle - 8H4	198	21° 31' 23.96606752" S	114° 06' 37.27612440" E	WA-42-L
Stickle-9H5	195	21° 31' 09.48247552" S	114° 07' 23.40927120" E	WA-42-L
Tanglehead-1H1	195	21° 31' 21.4918992" S	114° 07' 26.10295680" E	WA-42-L
Tanglehead-2H2	195	21° 31' 21.58738192" S	114° 07' 27.71560200" E	WA-42-L
Wildbull-1H1	212	21° 31' 13.20441112" S	114° 05' 06.05845680" E	WA-42-L
Gas Injection Well				
Macedon - 6	181	21° 34' 03.49066432" S	114° 10' 00.84305640" E	WA-42-L
Water Injection Well				
Crosby - 7WI	197	21° 29' 57.59613112" S	114° 07' 36.30057960" E	WA-42-L
Moondyne-3WI	191	21° 32' 03.80817832" S	114° 09' 18.00202680" E	WA-42-L
Ravensworth - 9WI	213	21° 30' 09.55413592" S	114° 05' 43.14401520" E	WA-42-L
Stickle - 7WI	191	21° 30' 09.27344032" S	114° 08' 41.61371280" E	WA-42-L

Table 3. Approximate Locations

Structure	Approximate Water depth	Approximate Latitude	Approximate Longitude	Petroleum Titles
Ngujima-Yin Facility FPSO				
Ngujima-Yin FPSO	340	21° 26' 02.661" S	114° 04' 01.325" E	WA-28-L
Production wells*				
CIM01	529	21°26'23.354004" S	113°57'56.158998" E	WA-59-L
LAV01	845	21°31'22.872000" S	113°50'39.948000" E	WA-59-L
LAV02	849	21°31'35.595996" S	113°50'22.416000" E	WA-59-L
NOL01	804	21°30'41.998998" S	113°52'18.573000" E	WA-59-L
NOL02	823	21°31'0.739998" S	113°51'13.304004" E	WA-59-L
NOL03	826	21°30'48.586998" S	113°51'5.697000" E	WA-59-L
VNA-H1 (ST2)	362	21°26'23.309988" S	114°2'48.390000" E	WA-28-L
VNA-H2 (LIST3)	362	21°26'22.629984" S	114°2'47.670000" E	WA-28-L
VNA-H3 (ST2)	362	21°26'22.160004" S	114°2'48.120000" E	WA-28-L
VNA-H4 (L1)	362	21°26'22.850016" S	114°2'48.850008" E	WA-28-L
VNA-H5 (ST1)	362	21°26'22.232364" S	114°2'49.346988" E	WA-28-L
VNA-H6A (L1 & L2ST1)	362	21°26'23.669988" S	114°2'47.824008" E	WA-28-L
VNB-H1 (LIST2)	392	21°26'2.289984" S	114°1'59.070000" E	WA-28-L
VNB-H2 (ST3)	392	21°26'1.759992" S	114°1'58.258992" E	WA-28-L
VNB-H3 (L1)	392	21°26'1.150008" S	114°1'58.590012" E	WA-28-L
VNB-H4 (LIST3 & L2ST1)	392	21°26'1.659984" S	114°1'59.409984" E	WA-28-L
VNB-H5 (LIST3 & L2ST1)	392	21°26'1.214916" S	114°2'0.073212" E	WA-28-L
VNA-H5 (ST1)	362	21°26'22.232364" S	114°2'49.346988" E	WA-28-L
VNA-H6A (L1 & L2ST1)	362	21°26'23.669988" S	114°2'47.824008" E	WA-28-L
Gas Injection Well				
VN-G1	371	21°25'1.940016" S	114°3'16.949988" E	WA-28-L
Water Injection Well				
CIM02WI	527	21°26'25.038000" S	113°58'0.284004" E	WA-59-L
CIM03WI	526	21°26'25.842000" S	113°58'0.529998" E	WA-59-L
CIM04WI	562	21°26'41.202000" S	113°57'1.305000" E	WA-59-L
LAV03WI	805	21°31'15.075000" S	113°52'8.851002" E	WA-59-L
LAV04WI	805	21°31'42.630000" S	113°51'33.424998" E	WA-59-L
LAV05WI	820	21°32'0.107004" S	113°51'12.102000" E	WA-59-L
VNC-W2	346	21°27'33.210000" S	114°2'32.529984" E	WA-28-L
Production Wells Permanently Plugged				
VNC-W1	346	21°27'32.069988" S	114°2'33.770004" E	WA-28-L

* Two additional production wells may be developed within the Operational Area shown in Figure 4.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 523 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Environment That May Be Affected (EMBA)

The environment that may be affected (EMBA) is the largest spatial extent where the Pyrenees Facility Operations activities and the Ngujima-Yin Facility Operations activities could potentially have an environmental consequence (direct or indirect). The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these EPs, is determined by modelling the highly unlikely event of a hydrocarbon release. The worst-case credible spill scenario for these EPs is a release from a loss of well control or a vessel collision with the FPSO with enough force to breach the hull, releasing crude to the environment.

The EMBA does not represent the extent of the predicted impact of the highly unlikely unplanned release of hydrocarbons. Rather, the EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected - the specific and minimal part of the EMBA that is affected will only be known at the time of the release.

Figure 5 displays the EMBA for the Ngujima-Yin EP and Figure 5 displays the EMBA for the Pyrenees EP.

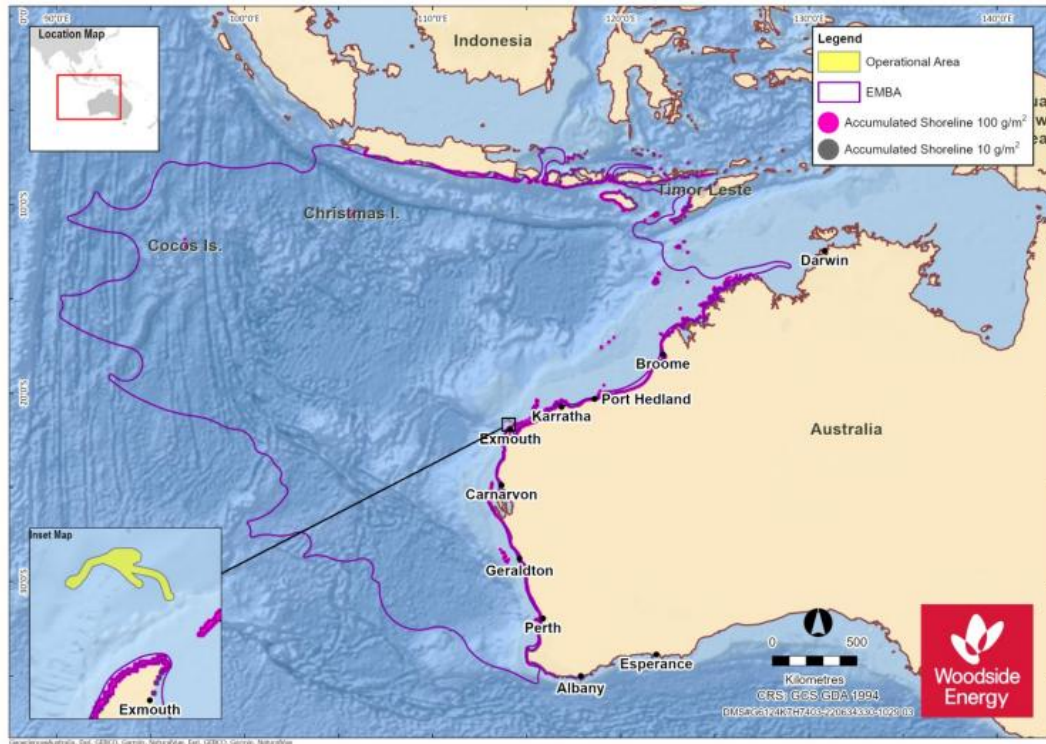


Figure 5. Ngujima-Yin FPSO Operations Environment that May Be Affected (EMBA) by an unplanned hydrocarbon release from an accident/incident during the Petroleum Activities Program.

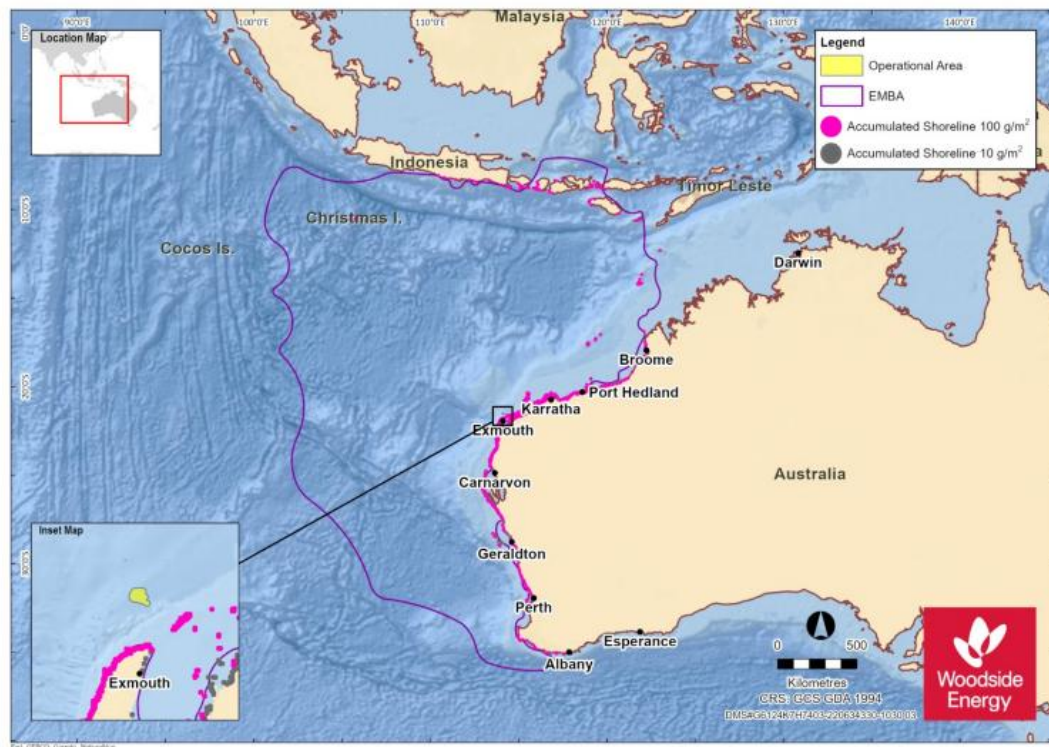


Figure 6. Pyrenees FPSO Operations Environment that May Be Affected (EMBA) by an unplanned hydrocarbon release from an accident/ incident during the Petroleum Activities Program.

Mitigation and management measures

Woodside has undertaken an assessment to identify potential impacts and risks to the environment arising from the Pyrenees and Ngujima-Yin facilities operations activity, including IMMR activities and other contingent activities. A number of mitigation and management measures for the activity are outlined in Table 4. Further details will be provided in the EPs.

Table 4. Summary of key risks and/or impacts and preliminary management measures for the Activity*

Potential Impact/Risk	Description of Source of Potential Impact/Risk	Description of Potential Impacts/ Risks	Proposed Mitigation and/or Management Measure
Planned Activities (Routine and Non-routine)			
Physical Presence: Interaction with other Marine Users, Cultural Values & Heritage	- The presence of FPSOs, other vessels and subsea infrastructure has the potential to exclude and/or displace other users from the Pyrenees or Ngujima-Yin Petroleum Safety Zone and Operational Areas respectively. - Physical presence of project vessels and activities may have potential to impact cultural values and heritage.	- Localised displacement of commercial fishing from the Operational Area. - Displacement of recreational fishing activity is likely to be low level due to the distance from boating facilities, lack of natural attractions (e.g. reefs or shoals) and water depth of Operational Area. - The presence of support vessels could cause temporary disruption to commercial shipping. No recognised shipping lanes overlap the Operational Areas. - Tourism and recreation within the Operational Areas is expected to be infrequent due to the lack of emergent features or natural attractions (e.g. reefs or shoals) and water depth.	- Vessels adhere to regulatory requirements for navigational safety. - Maintain a permanent Petroleum Safety Zone around the FPSO. - Notify Australian Hydrographic Office (AHO) of locations of new permanent infrastructures to enable update of maritime charts. - Consult with relevant persons so that they are informed of the proposed activities. - FPSO collision prevention system implemented to alert marine vessels of the facility location. - Woodside will actively support the capacity of Traditional Custodians for ongoing engagement and consultation on environment plans, for the purpose of avoiding impacts to cultural heritage values.
Physical Presence: Seabed disturbance	Seabed disturbance may result from the following activities: - Presence of FPSO, wells and subsea infrastructure (including moorings) modifying marine habitats. - Subsea operations, inspection, maintenance and repair activities resulting. - Anchoring as required in emergency conditions.	- Localised modification of seabed habitat within the Operational area through seabed scouring around subsea infrastructure or formation of artificial reef. - The infrastructure provides hard substrate for marine organisms and a fouling community. This may result in local increase biological productivity and diversity within the Operational Area. - During IMMR activities, a localised and temporary decline in water quality due to an increase of suspended sediment concentration and sediment deposition may occur.	- Monitoring and maintenance of all subsea infrastructure completed as per IMMR process. - Any new subsea infrastructure to have an as-left survey completed and location to be recorded.
Routine Light Emissions: Light Emissions from FPSO, Vessel Operations and Operational Flaring	- The FPSOs, vessels (including IMMR) and Remote Operation Vehicles (ROV) will use external lighting to conduct safe operations. - Light emissions from FPSO during flaring.	Light emissions have the potential to temporarily affect fauna such as fish, marine reptiles and seabirds by influencing changes in their behaviour or impacting orientation in close proximity to the FPSOs or vessels.	- Lighting limited to the minimum required for navigational and safety requirements, except for emergency events. - Flare management through reinjection to reduce flare intensity. - Implementation of appropriate measures based on recommendations of the National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds.

Potential Impact/Risk	Description of Source of Potential Impact/Risk	Description of Potential Impacts/Risks	Proposed Mitigation and/or Management Measure
Routine Acoustic Emissions: Generation of Noise During Routine Operations	Noise generated within the Operational Areas from: - FPSOs and associated subsea infrastructure; - Vessels; - Helicopters; and - IMMR activities (e.g. ROVs, AUVs, side scan sonar, echo sounder, vessels on DP).	- Elevated underwater noise can potentially disturb marine fauna, including marine mammals, turtles, and fish through behavioural effects, masking or interfering with other biologically important sounds (echolocation, vocal communication, signals, and sounds produced by predators or prey) or as direct physical damage. - The migration corridor (Biologically Important Area (BIA)) for pygmy blue whales and humpback whales overlaps with a small portion of the Operational Areas and may expose the mammals to underwater noise during seasonal migrations. Given the underwater noise levels and low likelihood of the whales being present in the Operational Area, the potential for impact is considered highly unlikely.	Comply with regulatory requirements for interactions with marine megafauna in attempt to prevent adverse interactions.
Routine and Non-routine Atmospheric and Greenhouse Gas (GHG) Emissions	Atmospheric emission and GHG emissions generated through fuel combustion from FPSO, vessels and helicopters, FPSO operational flaring and fugitive emissions (e.g. compressors, generators etc.).	- Emissions could result in temporary, localised reductions in air quality in the immediate vicinity. - Contribution to GHG emissions.	- Comply with regulatory requirements for GHG emissions and reporting. - Monitoring, review and optimisation of facility fuel and flaring emissions where possible.
Routine and Non-Routine Discharges: Subsea Operations and Activities	- Discharge of subsea control fluids from the actuation of valves or during subsea operations and activities. - Potential discharge of hydrocarbons or chemicals remaining in subsea pipework and equipment due to subsea intervention works (including pigging) and/or IMMR activities.	- Localised, short-term decrease in water quality around the subsea system within Operational Area due to relatively small volumes discharged and rapid dilution of release. - Any impacts to fauna should be minor and the potential for bioaccumulation in organisms or accumulation in sediments is considered negligible. - The Operational Area overlaps Key Ecological Features (KEFs), namely the Continental Slope Demersal Fish Communities and Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula. Discharges are not likely to have impacts to the ecosystem function of the KEFs.	- Marine discharges managed according to regulatory requirements. - Chemicals selected with lowest practicable environmental impacts and risks subject to technical constraints and approved through the Woodside chemical assessment process. - Subsea infrastructure flushed and isolated where practicable during IMMR activities.
Routine and Non-routine Discharges: Utility Systems and Drains	- Discharge of sewage, grey water and putrescible waste from FPSOs or vessels to the marine environment. - Discharge of deck, bilge and drain water from FPSOs or vessels to marine environment.	- Potential slight, short-term, localised ongoing increase in nutrients and oxygen demand around FPSOs and vessels with no lasting effect. - Potential slight, short-term, localised ongoing decrease in water quality at discharge location. - Discharges are not likely to impact on the overlapping KEFs in the Operational Areas.	- Marine discharges managed according to regulatory requirements. - Chemicals selected with lowest practicable environmental impacts and risks subject to technical constraints and approved through the Woodside chemical assessment process. - Onboard treatment and open / closed draining systems are monitored and maintained.

Potential Impact/Risk	Description of Source of Potential Impact/Risk	Description of Potential Impacts/Risks	Proposed Mitigation and/or Management Measure
Routine and Non-Routine Discharges: FPSO production waste (Pyrenees only)	- Discharge of production waste from Pyrenees FPSO (produced water). - Note: All produced water from Ngujima-Yin FPSO is reinjected to the reservoir and discharge is not permitted in this EP.	Overboard discharges causing localised changes in water quality may result in potential environmental impacts to biota within the Operational Areas	- Marine discharges managed according to regulatory requirements. - Continuous measurements and monitoring of Produced Water (PW) Systems. Diversion of PW if measurements exceed acceptable baseline levels. - Chemicals selected with lowest practicable environmental impacts and risks subject to technical constraints and approved through the Woodside chemical assessment process. - Maximise the reinjection of produced water.
Unplanned Events (Accidents / Incidents)			
Unplanned Hydrocarbon or Chemical Release: Hydrocarbon release during Bunkering / Refuelling and Chemical release during transfer, storage, and use	- Accidental spill of hydrocarbons (diesel) to the marine environment during bunkering / refuelling. - Chemical release to marine environment during transfer, storage and use.	- Potential to cause localised and temporary changes to water quality from a marine diesel or chemical spill. - Marine diesel is a relatively volatile, nonpersistent hydrocarbon with up to approximately 40% evaporating within the first 24 hours for a surface spill. - Potential impacts across the EMBA may include injury/mortality to seabirds, fish, plankton, marine mammals and marine reptiles. Mortality of larger fauna is not expected to occur. - No impacts to KEFs are expected, as these KEFs are mainly benthic and will therefore not be affected by a small surface release.	- Vessels compliant with regulatory guidelines for safe operations including bunkering / refuelling and emergency response. - Chemicals selected with lowest practicable environmental impacts and risks subject to technical constraints and approved through the Woodside chemical assessment process. - Safe storage of chemicals with spill clean-up equipment available. - Equipment for bunkering / refuelling regularly inspected / maintained and replaced as required. - Reporting of unplanned releases.
Unplanned Hydrocarbon Release: Loss of Hazardous and Non-Hazardous Waste / Equipment	Incorrect disposal or accidental discharge of non-hazardous and hazardous waste / equipment from FPSOs or vessels to the marine environment.	- The potential impacts of waste accidentally discharged to the marine environment include localised direct pollution and contamination of the environment, and secondary impacts potentially leading to injury and/or death to marine fauna (e.g. entanglement or ingestion). - The temporary or permanent loss of waste materials/equipment into the marine environment is not likely to have a significant environmental impact, based on the location of the Operational Area, the types, size and frequency of waste that could occur and species present.	- Compliance with regulatory requirements for the prevention of marine pollution and handling of hazardous wastes (i.e. Marine Orders 95 and 94). - Compliance with Waste Management Plans for the storage, handling and transportation of wastes. - Attempted recovery of dropped waste objects where safe and practicable.

Potential Impact/Risk	Description of Source of Potential Impact/Risk	Description of Potential Impacts/Risks	Proposed Mitigation and/or Management Measure
Physical Presence (Unplanned): Vessel Collision with Marine Fauna	Vessel movements have the potential to result in collisions between the vessel (hull and propellers) and marine fauna.	- Vessel interaction presents a potential threat to marine mammals, marine reptiles and fish, sharks and rays. - Whilst a portion of both Operational Areas overlap the pygmy blue whale and humpback whale migration BIAs, this overlap represents a very small proportion of the BIA. Given the slow speeds at which project vessels generally operate, interactions with whales are considered unlikely. - Whale shark presence in the Operational Areas is likely during their migrations to and from Ningaloo Reef. Whale sharks are only expected in the area for short durations and their presence would be migratory. - The Pyrenees Operational Area overlaps BIAs for sensitive turtle areas but given the water depth and absence of potential for nesting, turtles are likely to only use the area infrequently for transit. - Vessel activities are unlikely to result in a consequence greater than short-term disruption to fauna, with no expected impact on critical habitat.	Comply with regulatory requirements for interactions (e.g., EPBC Regulations 2000 – Part 8 Division 8.1) with marine fauna to reduce the likelihood of a collision occurring.
Physical Presence (Unplanned): Introduction of Invasive Marine Species (IMS)	- Vessels transiting to the Operational Area may be subject to marine fouling whereby organisms attach to the vessel hull. - Organisms can also be drawn into ballast tanks during onboarding of ballast water. - IMS can also be present as biofouling on subsea structures.	- Transfer of IMS from infected vessels to the Operational Areas and establishment on the seafloor or subsea infrastructure is not likely due to the deep offshore waters which are not conducive to the settlement and establishment of IMS. - There is potential for IMS to transfer from infected vessels and attach to FPSO or turret. - Risk is considered remote that IMS will secondarily transfer from the FPSO or turret to another vessel given the offshore open ocean environment.	- Ballast water and biofouling will be managed according to regulatory requirements, including the Australian Ballast Water Management Requirements, and the Australian Biofouling Management Requirements, as applicable. - Woodside's IMS risk assessment process applied to project vessels and immovable equipment entering the Operational Areas. - Inspection of FPSOs by IMS Inspector prior to return from international sail away.
Unplanned Hydrocarbon Release: Subsea Infrastructure	Accidental release of hydrocarbons resulting from loss of containment of subsea infrastructure.	Potential significant impacts to marine environment including: - Long-term impacts to sensitive nearshore areas of offshore islands and coastal shorelines. - Disruption to marine fauna, including protected species. - Potential interference with or displacement of other sea users including fisheries and tourism and recreation.	- Compliance with Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009: Accepted Safety Case. - The Subsea Infrastructure design includes a range of measures that specifically aid in minimising the risk of external damage. - Woodside management system implemented during operations to maintain infrastructure integrity, communication systems and safety instrumented systems to an acceptable standard. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Maintain a permanent Petroleum Safety Zone around FPSO. - Reporting of unplanned releases.

Potential Impact/Risk	Description of Source of Potential Impact/Risk	Description of Potential Impacts/Risks	Proposed Mitigation and/or Management Measure
Unplanned Discharges: Loss of Well Containment	Accidental release of hydrocarbons to the marine environment due to loss of well containment.	- Long-term impacts to sensitive nearshore areas of offshore islands and coastal shorelines. - Disruption to marine fauna, including protected species. - Potential interference with or displacement of other sea users including fisheries, tourism and recreation.	- Compliance with Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulations 2011: WOMP, which describes the well design and barriers to be used to prevent a loss of well control and to Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009: Accepted Safety Case. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Maintain Well Safety Instrumented Systems to detect and act on events that have potential to cause a hydrocarbon event. - Reporting of unplanned releases.
Unplanned Hydrocarbon Release: Vessel Collision	Vessel collision involving a project vessel or third-party vessel, resulting in the release of marine diesel fuel if the collision has enough force to penetrate the vessel hull in the exact fuel location.	- In the highly unlikely event of a vessel collision it may cause a release of hydrocarbons, impacts to water quality and marine ecosystems could occur. - Marine diesel is a relatively volatile, nonpersistent hydrocarbon with up to approximately 40% evaporating within the first 24 hours for a surface spill. - Potential impacts to sensitive nearshore areas of offshore islands and coastal shorelines. - Potential disruption to marine fauna, including protected species. - Potential interference with or displacement of other sea users including fisheries, tourism and recreation.	- Compliance with regulatory requirements for safe vessel operations (i.e. Marine Orders 21, 27 and 30). - Maintain a permanent Petroleum Safety Zone around FPSO. - Management plans for simultaneous operations in place when working in vicinity of other Woodside operations / activities. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Reporting of unplanned releases.
Unplanned Hydrocarbon Release: Turret Operations	Release of hydrocarbons from turret operations, including spill from failure to connect / disconnect from turret, failure of mooring system, accidental leaks from storage and equipment, including ROVs.	Potential localised decline in water quality caused by accidental pollution/contamination.	- Implemented Turret Mooring System Connect and Disconnect Procedure. - Monitor the mooring system to identify potential issues with a mooring line. - Management of wells in accordance with Well Integrity Management System to prevent loss of well control and associated overpressure of turret equipment. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Reporting of unplanned releases.

Potential Impact/Risk	Description of Source of Potential Impact/Risk	Description of Potential Impacts/Risks	Proposed Mitigation and/or Management Measure
Unplanned Hydrocarbon Release: Offtake Operations	Release of hydrocarbons from FPSO offloading equipment to the marine environment and atmosphere during offloading / transferring operations.	- Long-term impacts to sensitive nearshore areas of offshore islands and coastal shorelines. - Disruption to marine fauna, including protected species. - Potential interference with or displacement of other sea users including fisheries and tourism and recreation	- Compliance to Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009: Accepted Safety Case. - Implemented offloading procedures and all offtake tankers vetted to ensure they meet Woodside requirements. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Maintain a permanent Petroleum Safety Zone around FPSO. - Reporting of unplanned releases.
Unplanned Hydrocarbon Release: Loss of Containment of Crude Oil from FPSO	Release of hydrocarbons from FPSO to the marine environment due to loss of containment from bulk storage, topsides processing equipment, non-process topsides equipment or loss of structural integrity.	- Long-term impacts to sensitive nearshore areas of offshore islands and coastal shorelines. - Disruption to marine fauna, including protected species. - Potential interference with or displacement of other sea users including fisheries and tourism and recreation.	- Compliance to Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009: Accepted Safety Case. - Maintain a permanent Petroleum Safety Zone around FPSO. - Maintenance of facility as per Performance Standard requirements. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Reporting of unplanned releases.

**These mitigation and management measures are subject to change through the consultation and subsequent assessment process and may not represent content in the publicly available EP or in the final plan once accepted.*

Feedback

Woodside consults relevant persons in the course of preparing Environment Plans to notify them of the activity and to obtain relevant feedback to inform its planning for proposed petroleum activities in the region.

If you would like to comment on the proposed activities outlined in this information sheet, or would like additional information, please contact Woodside before **27 October 2023** via:

E: Feedback@woodside.com

Toll free: 1800 442 977

You can subscribe on our website to receive Consultation Information Sheets for proposed activities:

www.woodside.com/sustainability/consultation-activities.

Please note that stakeholder feedback will be communicated to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) as required under legislation. Woodside will communicate any material changes to the proposed activity to affected stakeholders as they arise.

Please note that your feedback and our response will be included in our Environment Plan for the proposed activity, which will be submitted to NOPSEMA for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the Environment Plan in order for this information to remain confidential to NOPSEMA.

www.woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 531 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

1.2 Summary Consultation Sheet



NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

CARNARVON BASIN, NORTH-WEST AUSTRALIA

When preparing an environment plan (EP), Woodside needs to notify relevant persons and obtain their input. This helps confirm current measures or identify additional measures, that may need to be taken to lessen or avoid potential adverse effects of the proposed activity on the environment. Woodside wants to give relevant persons whose functions, interests or activities may be affected by the proposed activity the opportunity to identify themselves and provide feedback on our proposed activity.

This summary information sheet provides a high-level overview of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees FPSO Operations environment plans. Further details, including an assessment of the potential impacts and risks to the environment, as well as mitigation and management measures, are available within the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plan Consultation Information Sheet (September 2023) which can be found at:

www.woodside.com/sustainability/consultation-activities

Overview

Woodside plans to submit a five-year revision of the Operations EPs for the Pyrenees and the Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The Pyrenees FPSO and associated production infrastructure is located in water depths ranging from -180 m to 215 m, in Commonwealth waters around 45 km north of Exmouth, Western Australia. Crude oil is produced on the Pyrenees FPSO from the Ravensworth, Crosby, Stickle, Tanglehead, Wild Bull and Moondyne reservoirs.

The Ngujima-Yin FPSO and associated production infrastructure is located in water depths ranging from -340 m to 850 m, in Commonwealth waters around 57 km north of Exmouth, Western Australia. Crude oil is produced on the Ngujima-Yin FPSO from the Vincent reservoir and the Greater Enfield development, which includes the Norton-over-Laverda, Laverda Canyon Reservoir and Cimatti fields.

Crude oil from both operations will be offloaded using Offtake Tankers. Other activities that will occur include surveys, inspection, maintenance, monitoring and repair activities, and other contingent activities.

Maps showing the location of the activities are provided below.

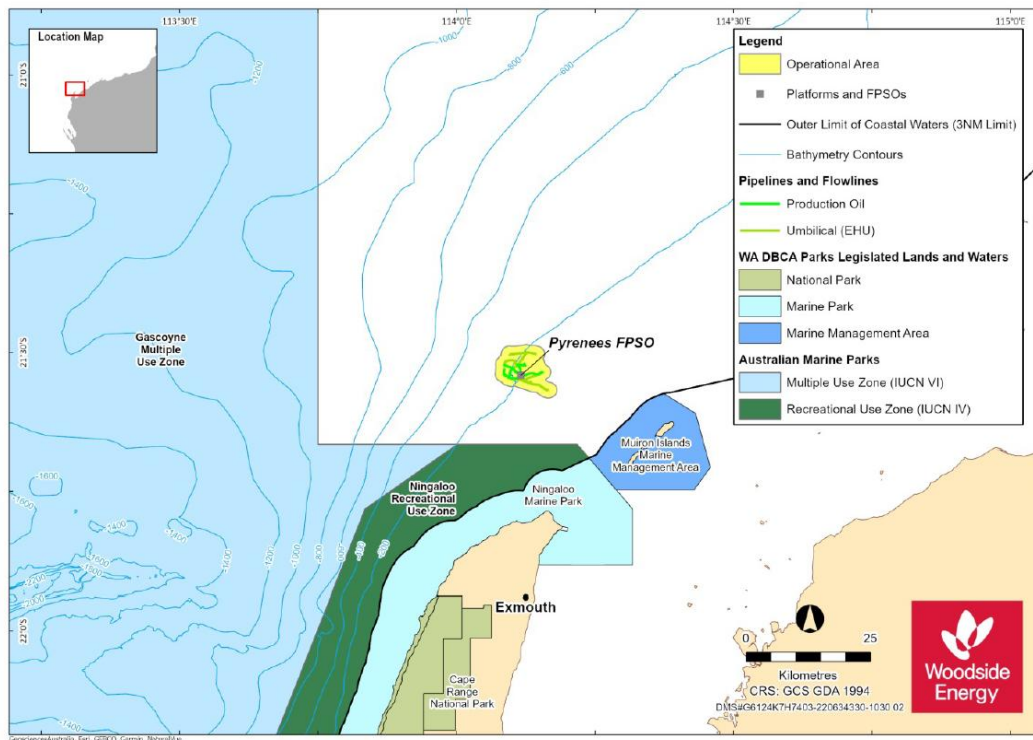


Figure 1. Pyrenees FPSO Location and Operational Area

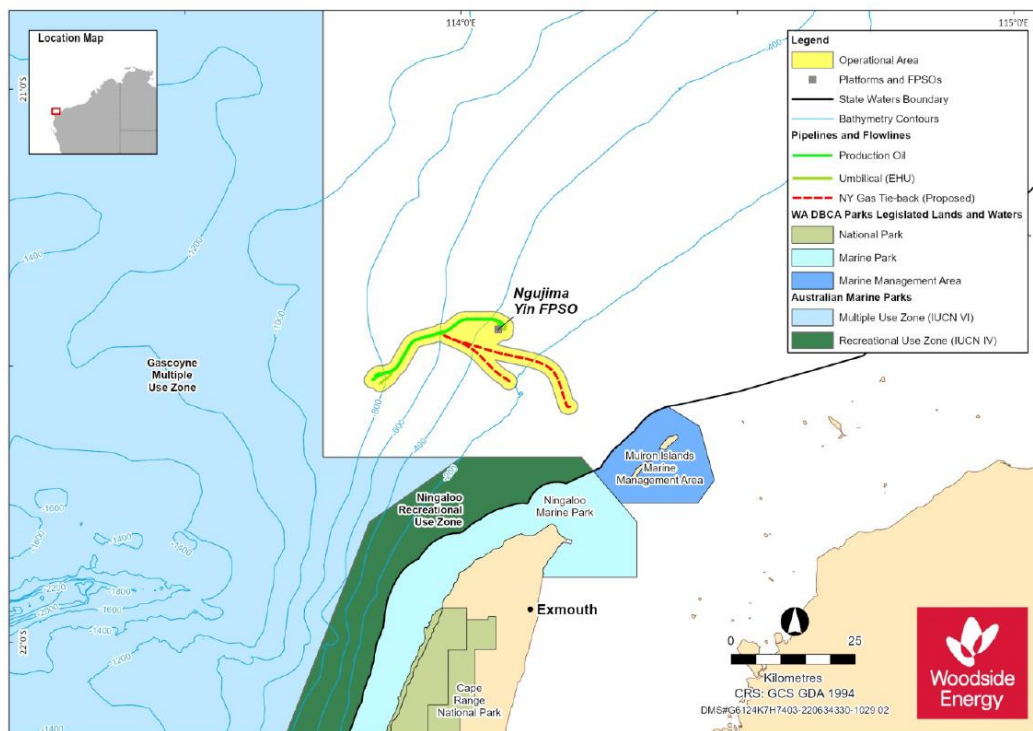


Figure 2. Ngujima-Yin FPSO Location and Operational Area

Work Method

Key features of the Floating Production Storage and Offloading (FPSO) facilities include:

- Floating hull with integrated storage tanks.
- Connected to the seabed and subsea production system through turret mooring system which includes risers, umbilicals and chain mooring systems illustrated schematically in Figure 3 and 4.
- Above the water there will be supporting processing systems and equipment, flare systems, utilities, cranes, laydown and storage areas, utility buildings, living quarters and helideck.
- The FPSO provides oil processing to make the oil suitable for offloading to an Offtake Tanker.

Summary of key activities includes:

- Routine production operations involve the offloading of crude oil to Offtake Tankers.
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.
- Other activities include surveys, inspection, maintenance, monitoring, and repair (IMMR) activities on the FPSO and subsea infrastructure, and other contingent activities.

- For Ngujima-Yin, two potential future development activities may include production from an additional two wells via a subsea tieback to existing subsea infrastructure and the operation of a new fuel gas flowline. Drilling, construction and installation activities associated with the tieback and fuel gas project will be subject to separate future EPs.

During normal operations, vessels will typically be limited to supply/support vessels and Inspection, Monitoring, Maintenance and Repair (IMMR) vessels. Offtake tankers will be used for offloading operations in both fields. It is anticipated vessels will operate 24 hours per day for the duration of activities.

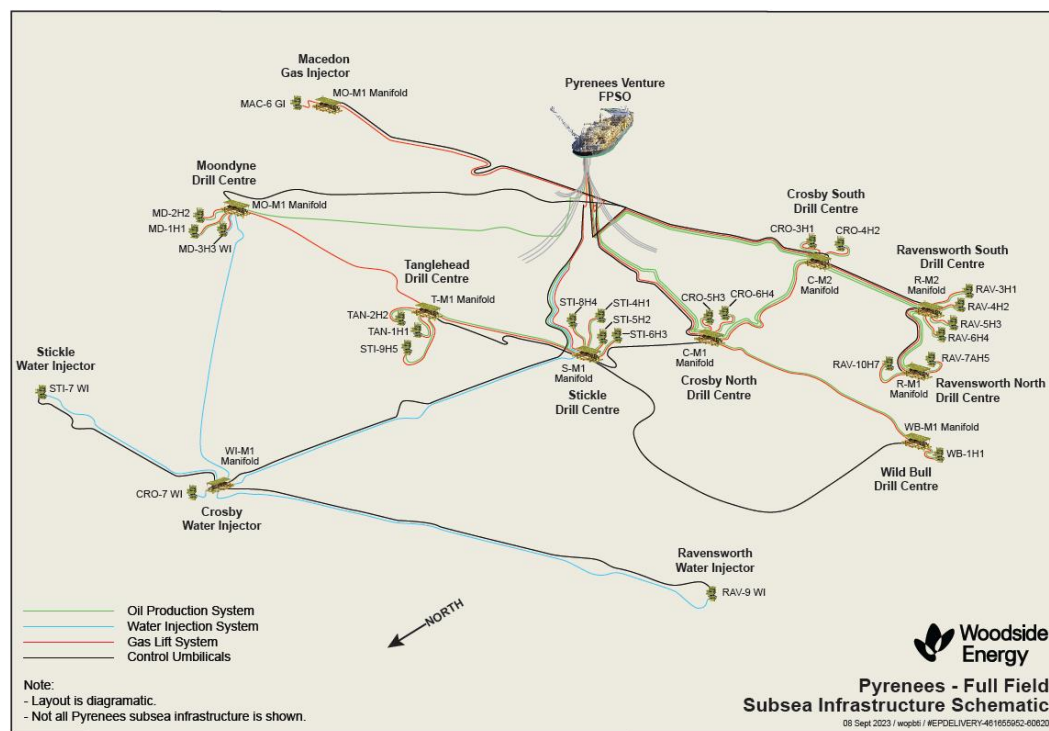


Figure 3. Overview of subsea infrastructure layout associated with the Pyrenees FPSO (not to scale)

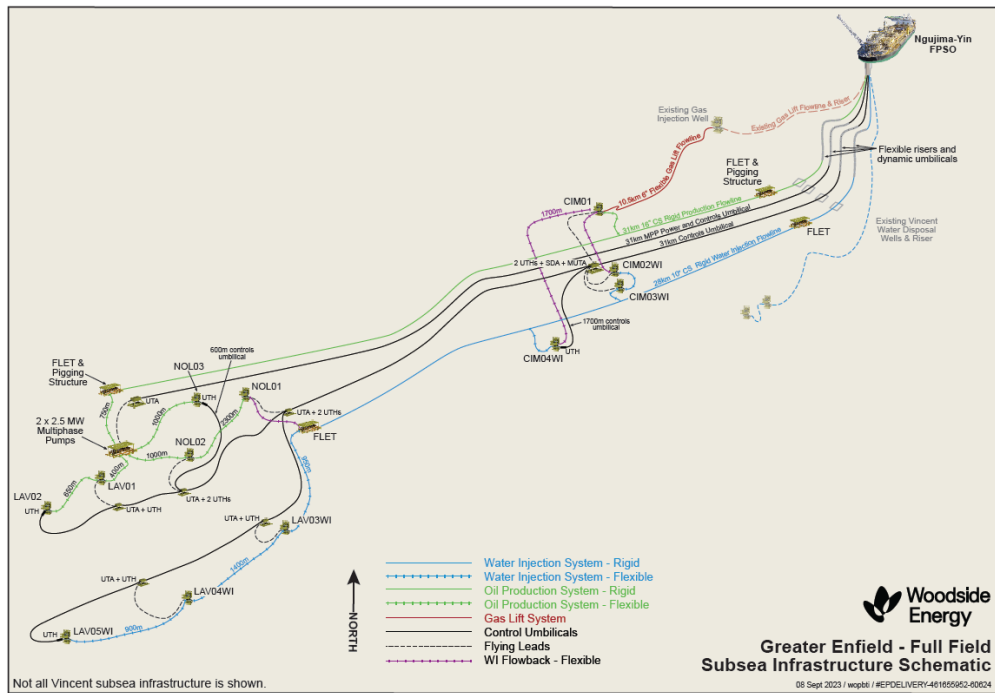


Figure 4. Overview of the subsea infrastructure layout associated with the Ngujima-Yin FPSO (not to scale)

Environment That May Be Affected (EMBA)

The environment that may be affected (EMBA) is the largest spatial extent where the Pyrenees Floating Production, Storage and Offloading (FPSO) Operations and the Ngujima-Yin FPSO Operations' activities could potentially have an environmental consequence (direct or indirect). The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these EPs, is determined by modelling the highly unlikely event of a hydrocarbon release. The worst-case credible spill scenario for these EPs is a release from a loss of well control or a vessel collision with the FPSO with enough force to breach the hull, releasing crude to the environment.

The EMBA does not represent the extent of the predicted impact of the highly unlikely unplanned release of hydrocarbons. Rather, the EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected - the specific and minimal part of the EMBA that is affected will only be known at the time of the release.

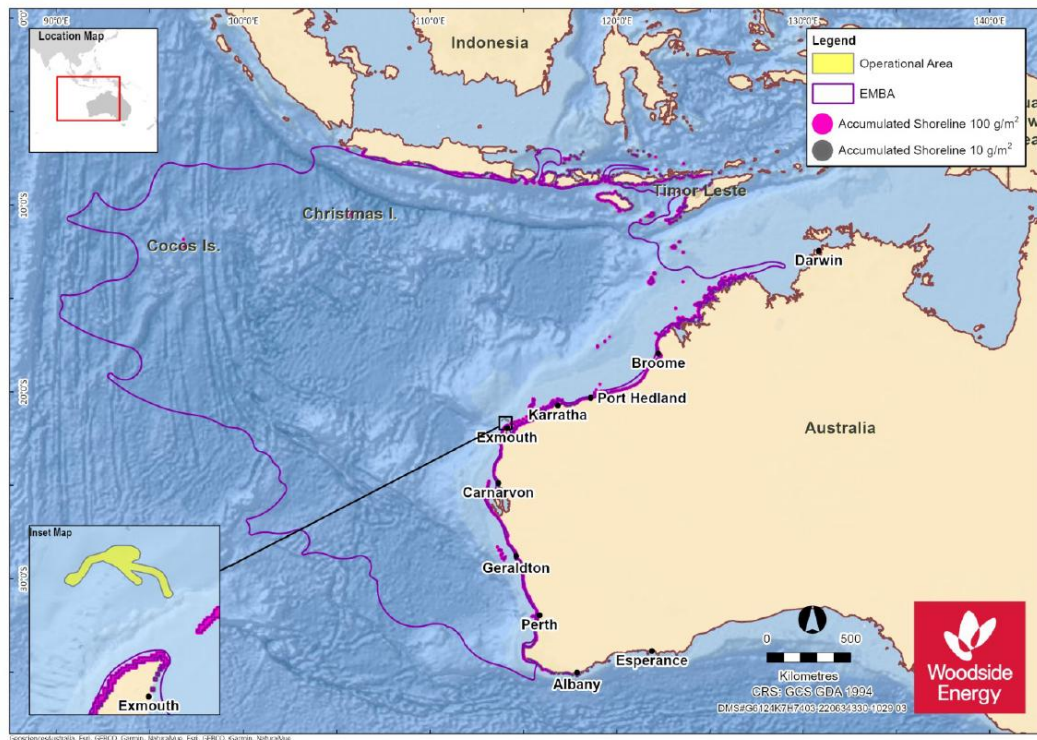


Figure 4. Ngujima-Yin FPSO Operations Environment that May Be Affected (EMBA) by an unplanned hydrocarbon release from an accident/incident during the Petroleum Activities Program.

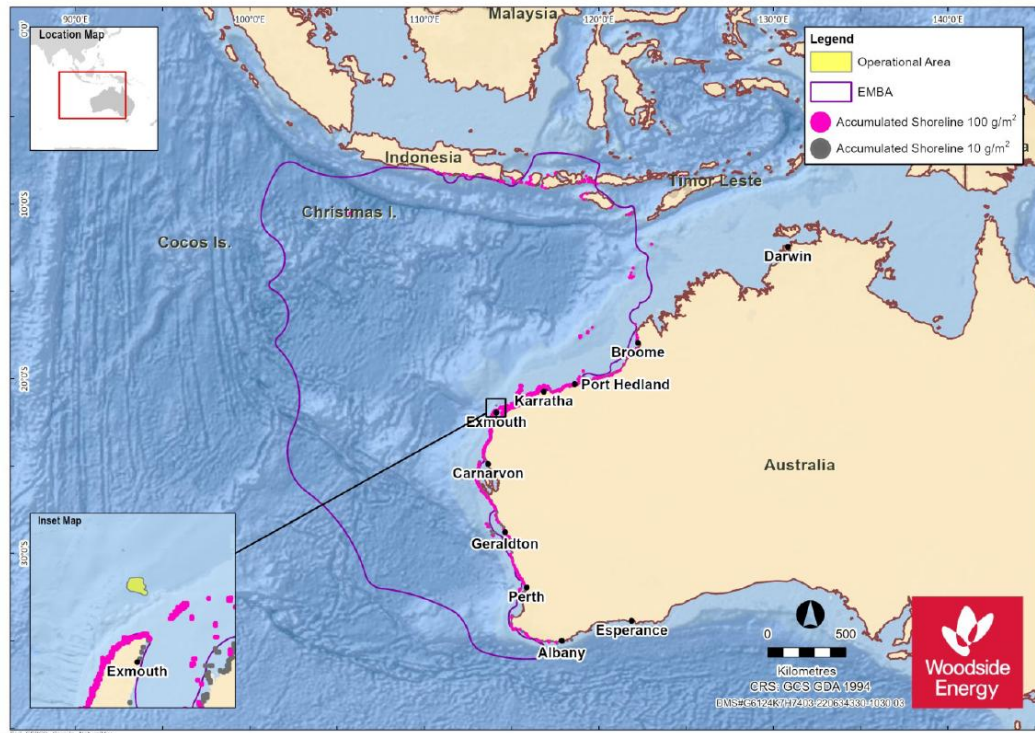


Figure 5. Pyrenees FPSO Operations Environment that May Be Affected (EMBA) by an unplanned hydrocarbon release from an accident/incident during the Petroleum Activities Program.

Feedback

Woodside consults relevant persons in the course of preparing Environment Plans to notify them of the activity and to obtain relevant feedback to inform its planning for proposed petroleum activities in the region.

If you would like to comment on the proposed activities outlined in this information sheet, or would like additional information, please contact Woodside before **27 October 2023** via:

E: Feedback@woodside.com

Toll free: 1800 442 977

You can subscribe on our website to receive Consultation Information Sheets for proposed activities:

www.woodside.com/sustainability/consultation-activities

Please note that stakeholder feedback will be communicated to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) as required under legislation. Woodside will communicate any material changes to the proposed activity to affected stakeholders as they arise.

Please note that your feedback and our response will be included in our Environment Plan for the proposed activity, which will be submitted to NOPSEMA for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) and support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the Environment Plan in order for this information to remain confidential to NOPSEMA.

www.woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 537 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

1.3 Email sent to Australian Border Force (ABF), Department of Foreign Affairs and Trade (DFAT), Department of Transport (DoT), Ningaloo Coast World Heritage Advisory Committee (NCWHAC), Department of Biodiversity, Conservation and Attractions (DBCA), Department of Industry, Science and Resources (DISR), Department of Mines, Industry Regulation and Safety (DMIRS), Australian Energy Producers (AEP) (Formerly Australian Petroleum Production and Exploration Association), University of Western Australia (UWA), Western Australian Marine Science Institution (WAMSI), Australian Institute of Marine Science (AIMS), Commonwealth Scientific and Industrial Research Organisation (CSIRO) - 13 September 2023

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 539 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 540 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.4 Email sent to Shire of Carnarvon (13 September 2023)

Dear Shire of Carnarvon,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 541 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 542 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.

Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 544 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled Consultation on offshore petroleum environment plans – Information for the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.5 Email sent to Western Gas, Exxon Mobil Australia Resources Company, Shell Australia, BP Developments Australia, PE Wheatstone, Kyushu Electric Wheatstone, Eni Australia, FINDER Energy, JadeStone, KUPPEC, Vermilion Oil & Gas, Santos NA Energy Holdings / Santos Ltd / Santos WA Northwest / Santos Offshore / Santos WA Southwest / Santos (BOL) / Santos WA PVG/ Santos Browse, Coastal Oil and Gas, Bounty Oil and Gas, OMV Australia / Sapura OMV Upstream, KATO Energy / KATO Corowa / KATO NWS / KATO Amulet, INPEX Alpha, JX Nippon O&G Exploration (Australia), 3D Oil Ltd, AGI Tubridgi P/L, Good Earth Energy Corporation, Pathfinder Energy P/L, Pilot Energy Ltd, Petro China International Investment, Triangle Energy, VRX Silica Ltd, Beach Energy, Origin Energy Browse, Strike Energy, Carnarvon Energy (14 September 2023)

Dear Titleholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 545 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline.

		The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs)	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 547 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	- Flexible Flowlines and Jumpers - Subsea support structures.	- Subsea pig launch and receiver facility - Subsea support structures. Potential new infrastructure that could be installed in the next five years: - Two new wells - One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.6 Email sent to Exmouth Recreational Marine Users, Karratha Recreational Marine Users, Christmas Island Recreational Marine Users, Recfishwest, Marine Tourism Association, WA Game Fishing Association – 14 September 2023

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 548 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 549 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 550 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	---	---

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.7 Email sent to Department of Defence (DoD) (15 September 2023)

Dear Department of Defence,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 552 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 553 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 554 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	• 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

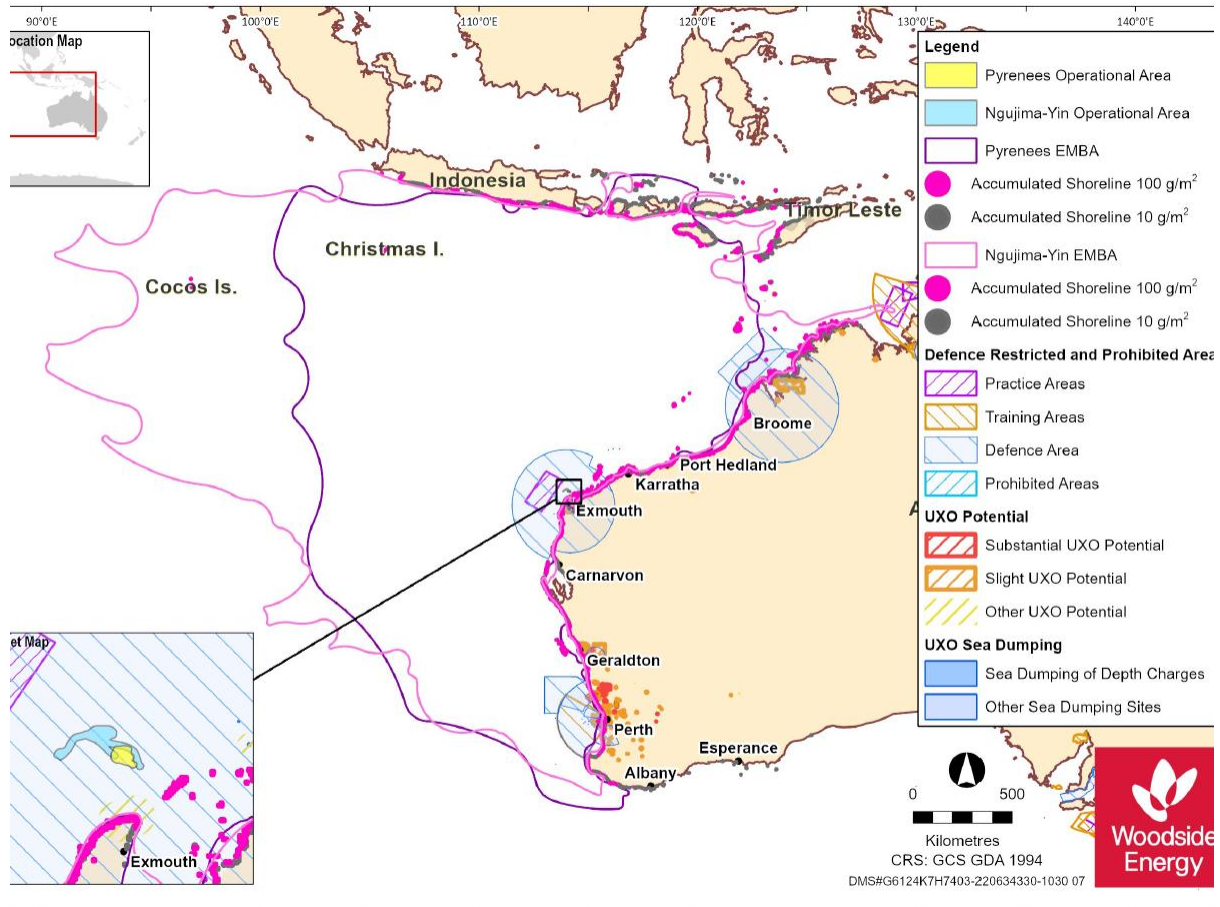
If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.8 Defence zone map sent to Department of Defence



1.9 Email sent to Department of Climate Change, Energy, the Environment and Water (DCCEE) (15 September 2023)

Dear Department of Climate Change, Energy, the Environment and Water,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 556 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 557 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		• A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers

	• 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for*

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 559 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.10 Email sent to Western Australian Museum (15 September 2023)

Dear Western Australian Museum,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). **Also attached is a list of shipwrecks in State waters within the EMBA.** You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 561 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	--	--

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.11 Email sent to Department of Planning, Lands and Heritage (DPLH) (15 September 2023)

Dear DPLH

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 563 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 564 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: 1 FPSO 1 Disconnectable Turret Mooring system, incorporating the risers 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and	Key infrastructure includes, but is not limited to: 1 FPSO 1 Disconnectable Turret Mooring system, incorporating the risers 6 flexible risers with buoyancy modules 28 Xmas trees/wells 4 Manifolds

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 565 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	1 flexible riser with buoyancy modules 27 Xmas trees/wells 10 Manifolds - Power and Control umbilicals - Umbilical Termination Assemblies (UTAs) - Flexible Flowlines and Jumpers - Subsea support structures.	- Power and Control umbilicals - Umbilical Termination Assemblies (UTAs) - Flexible and Rigid Flowlines and Jumpers - Multi-Phase Pumps - Subsea pig launch and receiver facility - Subsea support structures. Potential new infrastructure that could be installed in the next five years: - Two new wells - One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.12 Email sent to Chevron Australia Osaka Gas Gorgon, Tokyo Gas Gorgon, JERA Gorgon (15 September 2023)

Dear Chevron,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

We would be grateful if you could please forward this consultation information to your Joint Venture participants Osaka Gas Gorgon, Tokyo Gas Gorgon and JERA Gorgon for feedback.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 568 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	---	---

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.13 Email sent to Australian Hydrographic Office (AHO), Australian Maritime Safety Authority (AMSA) – Marine Safety (15 September 2023)

Dear AHO / AMSA

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 570 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). **A shipping lane map is also attached. A GIS Shape File will be emailed to you separately.** You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 571 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO	Key infrastructure includes, but is not limited to: • 1 FPSO

	• 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

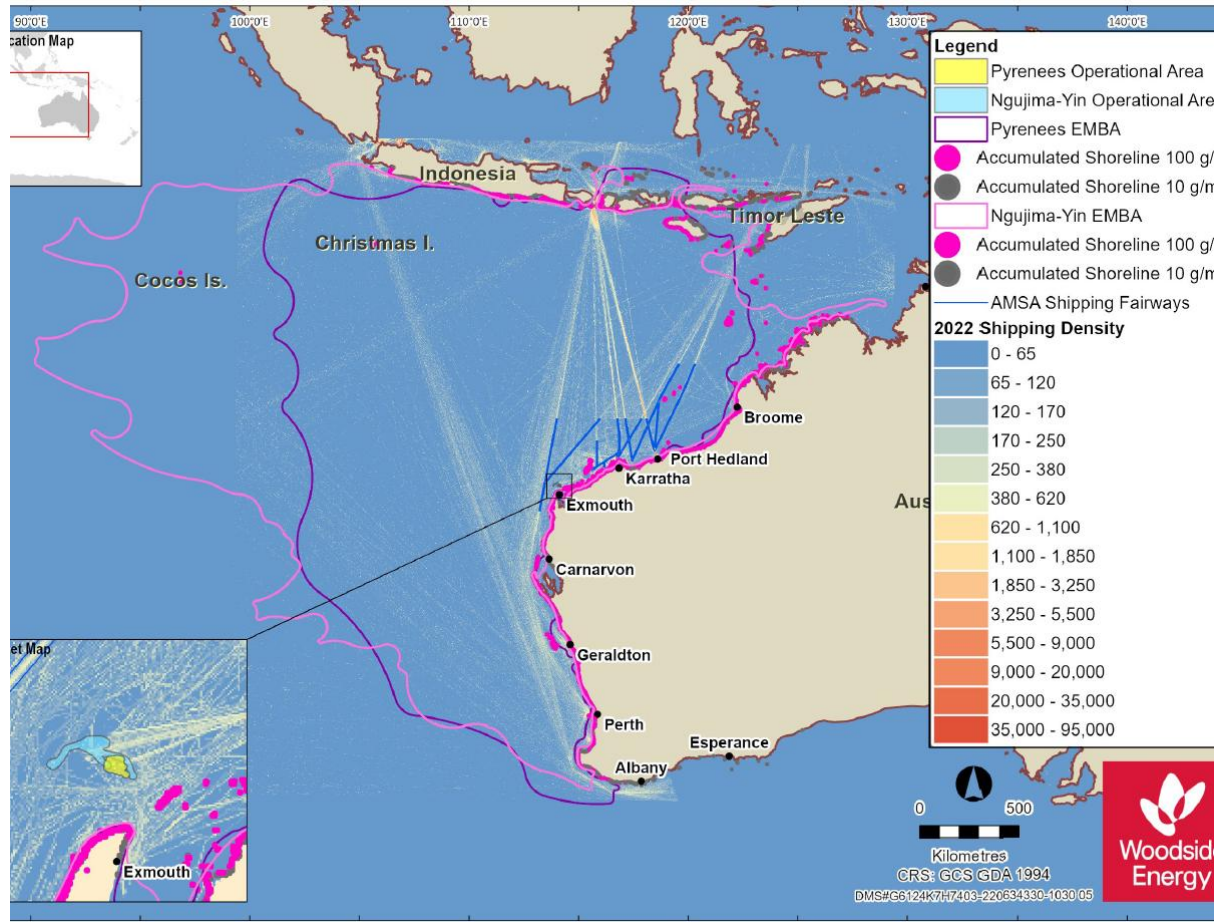
Revision: 5

Page 573 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled Consultation on offshore petroleum environment plans – Information for the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.14 Shipping lane map sent to AHO and AMSA



1.15 Email sent to Australian Maritime Safety Authority (AMSA) – Marine Pollution (15 September 2023)

Dear [Individual 4]

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 574 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 575 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: - A subsea tie back of two new wells to existing subsea infrastructure; and - A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 576 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 577 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled Consultation on offshore petroleum environment plans – Information for the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.16 Email sent to Onslow Chamber of Commerce and Industry (15 September 2023)

Dear [Individual 5]

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 578 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 579 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 580 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	--	--

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.17 Email sent to Shire of Ashburton (15 September 2023)

Dear Shire of Ashburton,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 581 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 582 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		• A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers

	• 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for*

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 584 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.18 Email sent to Shire of Exmouth (15 September 2023)

Dear [– Individual 6]

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 585 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 586 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	--	--

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.19 Email to City of Karratha (15 September 2023)

Dear [Individual 7] and [Individual 8],

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 588 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 589 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		• A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers

	• 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for*

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 591 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.20 Email to Town of Port Hedland (15 September 2023)

Dear Town of Port Hedland,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 592 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 593 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	--	--

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.21 Email sent to Shire of Broome (18 September 2023)

Dear [Individual 9]

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 595 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 596 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		• A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers

	• 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for*

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 598 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.22 Email sent to Broome Chamber of Commerce and Industry (18 September 2023)

Dear Broome Chamber of Commerce and Industry,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 599 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing.	Production Commenced: 2008. Routine Operations: Ongoing.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 600 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Estimated End of Field Life: 2035.	Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	--	--

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.23 Email sent to Carnarvon Chamber of Commerce and Industry (18 September 2023)

Dear Carnarvon Chamber of Commerce and Industry,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 602 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 603 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		• A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers

	• 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for*

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 605 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.24 Email sent to Shire of Derby/West Kimberley (18 September 2023)

Dear [Individual 10]

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 606 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 607 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	--	--

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.25 Email sent to Exmouth Community Liaison Group (18 September 2023)

Dear Exmouth Community Liaison Group,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 609 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 610 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		• A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers

	• 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for*

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 612 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.26 Email sent to Karratha Community Liaison Group (18 September 2023)

Dear Karratha Community Liaison Group,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 614 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	--	--

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.27 Email sent to Port Hedland Chamber of Commerce and Industry (18 September 2023)

Dear Port Hedland Chamber of Commerce and Industry,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 616 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 617 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		• A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers

	• 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for*

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 619 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.28 Email sent to Derby Chamber of Commerce and Industry, Mid West Chamber of Commerce and Industry, East Kimberley Chamber of Commerce and Industry (18 September 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 620 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 621 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 622 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	--	--

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.29 Email sent to Shire of Wyndham/East Kimberley, Shire of Shark Bay, City of Greater Geraldton, Shire of Chapman Valley, Shire of Dandaragan, Shire of Gingin, Shire of Northampton, Shire of Christmas Island, Pilbara Ports, Kimberley Ports Authority, Mid West Ports Authority (19 September 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 623 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 624 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO	Key infrastructure includes, but is not limited to: • 1 FPSO

	• 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 626 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled Consultation on offshore petroleum environment plans – Information for the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.30 Email sent to Director of National Parks (DNP) (19 September 2023)

Dear Director of National Parks

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Australian Marine Parks

We note Australian Government Guidance on consultation activities and confirm that:

- The proposed activities are outside the boundaries of any proclaimed Australian Marine Parks (AMPs).
 - The Pyrenees FPSO Petroleum Activity Area is located approximately 14 km from the northern boundary of the Commonwealth Ningaloo Marine Park, approximately 138 km south-west of the Barrow Island Marine Park and approximately 179 km south-west of the Montebello Island Marine Park.
 - The Ngujima-Yin FPSO Petroleum Activity Area is located approximately 26 km from the northern boundary of the Commonwealth Ningaloo Marine Park, approximately 140 km south-west of the Barrow Island Marine Park and approximately 180 km south-west of the Montebello Island Marine Park.
- We have assessed potential impacts to AMPs in the development of the proposed EP revisions and believe that planned activities have no potential to impact the values of the Marine Parks.
- For these EPs, the worst-case credible spill scenario is a hydrocarbon release from a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull, releasing crude oil to the environment. Through review of hydrocarbon spill modelling, and with consideration of a 50 ppb dissolved and 100 ppb entrained hydrocarbon threshold, the following AMPs may be contacted in the event of a spill:
 - Ningaloo Marine Park

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 627 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Gascoyne Marine Park
- Montebello Marine Park
- Dampier Marine Park
- Shark Bay Marine Park
- Carnarvon Canyon Marine Park
- Argo-Rowley Terrace
- Abrolhos
- Eighty Mile Beach Marine Park
- Mermaid Reef Marine Park
- Kimberley Marine Park
- Roebuck Marine Park
- Jurien Marine Park
- Two Rocks Marine Park
- Perth Canyon Marine Park
- Geographe Marine Park
- South-west Corner Marine Park
- Ashmore Reef Marine Park
- A Commonwealth Government-approved oil spill response plan will be in place for the duration of the activities, which will include notification to relevant agencies and organisations as to the nature and scale of the event, as soon as practicable following an occurrence. The Director of National Parks will be advised if an environmental incident occurs that may impact on the values of any Marine Park.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities;	Continuation of activities: • Routine oil production, crude oil offloading and associated activities;

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 628 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	• Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	• Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 629 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 630 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.31 Email sent to WAFIC (20 September 2023)

Hi [Individual 11],

Please see below for consultation information regarding the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans. The consultation period is due to close on 27 October 2023.

I've also attached the consultation information sheet.

Could WAFIC please provide the consultation information to:

- Mackerel Managed Fishery (Schedule 2- Area 2) – Both activities
- Marine Aquarium Fish Managed Fishery – Both activities
- Pilbara Line Fishery (Condition) – Both activities
- West Coast Deep Sea Crustacean Managed Fishery – Both activities
- Specimen Shell Managed Fishery – Pyrenees
- Pilbara Trap Managed Fishery – Pyrenees

If this could go out today or tomorrow it would be much appreciated – this was the one from last Friday however it wasn't finalised at that time.

Kind regards,
Woodside Feedback

Dear Commercial Licence Holders

WAFIC is contacting you regarding activities Woodside is proposing in Commonwealth waters across the North West Shelf of WA. WAFIC is now working with Woodside to strategically streamline consultation with the commercial fishing industry.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 631 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia.

Overview of Activities:

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

The table below provides a summary of the proposed activities under this EP. The attached Information Sheet provides additional information including a map of impacted areas, summaries of potential impacts and risks relating to the proposed activities, and associated management measures. These are also available on Woodside's [website](#).

Activity: Pyrenees Facility Operations, and Ngujima-Yin Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 632 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 633 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	• Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	Mackerel Managed Fishery (Schedule 2- Area 2) Marine Aquarium Fish Managed Fishery Pilbara Line Fishery West Coast Deep Sea Crustacean Managed Fishery Specimen Shell Managed Fishery Pilbara Trap Managed Fishery	Mackerel Managed Fishery (Schedule 2- Area 2) Marine Aquarium Fish Managed Fishery Pilbara Line Fishery West Coast Deep Sea Crustacean Managed Fishery

Feedback

Please provide any feedback specific to the proposed activities to [Individual 11] at WAFIC at [\[Individual 11\]@wafic.org.au](mailto:[Individual 11]@wafic.org.au) by **27 October 2023**.

Your feedback and Woodside's response will be included in the Environment Plan which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the proposed activities (which may or may not be confidential). Please advise if you would like any information to remain confidential and Woodside will make this known to NOPSEMA upon submission of the Environment Plan. To receive updates on Woodside's consultation activities, please subscribe [here](#).

1.32 Email sent to Mackerel Managed Fishery (Area 2), West Coast Deep Sea Crustacean Managed Fishery, Pilbara Line Fishery and Pilbara Trap Managed Fishery, via WAFIC (21 September 2023)

Dear Commercial Licence Holders

WAFIC is contacting you regarding activities Woodside is proposing in Commonwealth waters across the North West Shelf of WA. WAFIC is now working with Woodside to strategically streamline consultation with the commercial fishing industry.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia.

Overview of Activities:

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

The table below provides a summary of the proposed activities under this EP. The attached Information Sheet provides additional information including a map of impacted areas, summaries of potential impacts and risks relating to the proposed activities, and associated management measures. These are also available on Woodside's [website](#).

If you would like to receive notifications prior to and on completion of activities, please let us know. Woodside will notify WAFIC.

Activity: Pyrenees Facility Operations, and Ngujima-Yin Facility Operations Environment Plans

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 635 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: · Routine oil production, crude oil offloading and associated activities; · Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and · Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: · Routine oil production, crude oil offloading and associated activities; · Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and · Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: · A subsea tie back of two new wells to existing subsea infrastructure; and · A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 636 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Relevant fisheries	Mackerel Managed Fishery (Schedule 2- Area 2) Pilbara Line Fishery West Coast Deep Sea Crustacean Managed Fishery Pilbara Trap Managed Fishery	Mackerel Managed Fishery (Schedule 2- Area 2) Pilbara Line Fishery West Coast Deep Sea Crustacean Managed Fishery
---------------------------	---	---

Feedback

Please provide any feedback specific to the proposed activities to [Individual 11] at WAFIC [\[Individual 11\]@wafic.org.au](mailto:[Individual 11]@wafic.org.au) by **27 October 2023**.

Your feedback and Woodside's response will be included in the Environment Plan which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the proposed activities (which may or may not be confidential). Please advise if you would like any information to remain confidential and Woodside will make this known to NOPSEMA upon submission of the Environment Plan.

To receive updates on Woodside's consultation activities, please subscribe [here](#).

Best regards

1.33 Email sent to Department of Agriculture Fisheries and Forestry (DAFF) – Fisheries (20 September 2023)

Dear DAFF – Fisheries and Biosecurity,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 638 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities:	Continuation of activities:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 639 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	• Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	• Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • a new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offloading tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offloading tankers • IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Northern Prawn Fishery, Western Deepwater Trawl Fishery

Biosecurity

With respect to biosecurity matters, please note the following information below:

Environment description

The Pyrenees Operational Area (which includes the FPSO and subsea infrastructure) is located in water depths of approximately 180 to 215 m on the outer continental shelf of the North West Shelf Province, approximately 45 km north of Exmouth. The seabed is generally flat and featureless, with some minor depressions and comprises primarily of soft sediment, which is consistent with the wider North West Shelf Province.

The Ngujima-Yin Operational Area (which includes the FPSO and subsea infrastructure) is located in water depths of approximately 340 to 850 m on the outer continental shelf and continental slope of the North West Shelf Province, approximately 57km north of Exmouth. The seabed in the north-east half of the Operational Area is relatively flat and featureless and comprises primarily of soft sediment which is consistent with the wider North West Shelf Province. The seabed in the south-west of the Operational Area intersects the Canyons linking the Cuvier Abyssal Plain Key Ecological Feature. A survey was undertaken in 2015 of the Enfield Canyon observed that the canyon comprised flat unconsolidated sediments composed of sand- and mud-sized particles and that the canyon does not appear significantly different than the surrounding region, with seabed habitats and deep-water biota being typical and representative in the wider region.

As such, the sediment throughout the Ngujima-Yin Operational Area are broadly consistent with those in the North West Shelf Province, which are characterised by fine to medium sediment (silts and sands) with patches of coarser sediments (shells/gravels).

Potential IMS risk

IMS risk mitigation management

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 642 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Accidental introduction and establishment of invasive marine species

All vessels are required to comply with *the Australian Biosecurity Act 2015*, specifically the Australian Ballast Water Management Requirements (as defined under the Act) (aligned with the International Convention for the Control and Management of Ships' Ballast Water and Sediments) to prevent introducing Invasive Marine Species (IMS).

Vessels entering the Operation Areas for Pyrenees and Ngujima-Yin will have Woodside's IMS risk assessment process applied, including for immersible equipment entering the Operation Area. Based on the outcomes of each IMS risk assessment, management measures commensurate with the risk (such as the treatment of internal systems, IMS inspections or cleaning) will be implemented to minimise the likelihood of IMS being introduced.

Inspection of the FPSOs will be completed by a qualified IMS Inspector prior to return from international sail away.

Feedback

If you have feedback specific to the proposed activities described under the EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 **by 27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.34 Email sent to Australian Fisheries Management Authority (AFMA) (20 September 2023)

Dear AFMA,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 643 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 644 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • a new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 645 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offloading tankers	Key vessels include, but are not limited to: • Supply and support vessels • Offloading tankers

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 646 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	IMMR support vessels including multi-purpose support vessels.	IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Northern Prawn Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery, Cocos (Keeling) Islands Marine Aquarium Fish Fishery

Feedback

If you have feedback specific to the proposed activities described under the EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 **by 27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.35 Email sent to Protect Ningaloo, Cape Conservation Group (21 September 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 647 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 648 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	- Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: - A subsea tie back of two new wells to existing subsea infrastructure; and - A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 649 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 650 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled Consultation on offshore petroleum environment plans – Information for the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.36 Email sent to City of Albany, City of Bunbury, City of Busselton, Town of Cambridge, Shire of Capel, Shire of Carnamah, City of Cockburn, Shire of Cocos (Keeling) Islands, Shire of Coorow, Shire of Denmark, Town of Cottesloe, Shire of Dundas, Shire of Esperance, City of Fremantle, Shire of Harvey, Shire of Irwin, Shire of Jerramungup, City of Joondalup, City of Mandurah, Shire of Kwinana, Shire of Manjimup, Town of Mosman Park, Shire of Nannup, City of Nedlands, City of Rockingham, City of Stirling, City of Wanneroo, Shire of Waroona, Shire of Ravensthorpe, Shire of Augusta Margaret River, Margaret River Chamber of Commerce and Industry, Southern Ports (Albany), Southern Ports (Bunbury), Fremantle Port Authority (21 September 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

There are some questions and answers at the bottom of this email explaining why you have received this email.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 651 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

(EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 652 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 653 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	• Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Questions and Answers

Why have I received this email?

Your organisation has been identified by Woodside as potentially being relevant to consult with for Environment Plans relating to our operations of the Pyrenees Floating Production Storage and Offloading (FPSO) Facility and Ngujima-Yin FPSO Facility, located off Exmouth, WA.

Woodside consults relevant persons to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that could be taken to lessen or

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 654 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

avoid potential effects of the operations on the environment. This is the intended outcome of consultation.

But I'm not located near Exmouth?

Late last year a Federal Court decision looked at the way the Australian offshore energy industry consults relevant persons. Upon the establishment of this new case law, Woodside now consults much more broadly and consults with persons based on potential impacts from an unplanned event rather than planned impacts of a proposed offshore activity.

Woodside uses the environment that may be affected or 'EMBA' to help identify who may be a relevant person. This [brochure](#) from the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has more information regarding consultation on offshore petroleum environment plans.

What is an EMBA?

The environment that may be affected or EMBA is the largest area where unplanned events from the operations off Exmouth could have an environmental consequence (impact) based on modelling.

For the Pyrenees and Ngujima-Yin Facility Operations Environment Plans, the EMBA represents the merged area of many possible modelled paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of release. This is based on oil trajectory modelling.

What does oil trajectory modelling involve and why is the EMBA so big?

The process of identifying and mapping out an EMBA for each petroleum activity is primarily for assessment of potential impacts and oil spill response planning purposes. As the events that may lead to a spill are unknown, for planning purposes, the worst case credible spill scenario is identified. This looks at the worst case credible volume, location, timing etc, and modelling is undertaken to understand where the oil may go, if unmitigated (i.e. if no response strategies are applied).

To account for weather and ocean current variables, the spill scenario is modelled multiple times (typically 100 to 200 times) to see where the weather and ocean currents may take the oil.

All the modelled spill trajectories are then merged to create an EMBA. This means in the highly unlikely event a hydrocarbon release does occur, the entire EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known at the time of the release.

In order to be able to pre-prepare, response plans are built around the potential impacts resulting from a selection of the worst case modelling runs.

Where can I get more information?

For more information on consultation and oil spill modelling visit the [NOPSEMA website](#).

1.37 Email sent to Tuna Australia, Commonwealth Fisheries Association (CFA), North West Slope and Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Northern Prawn Fishery, Christmas Island Line Fishery (22 September 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 655 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.

Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 658 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Northern Prawn Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery, Cocos (Keeling) Islands Marine Aquarium Fish Fishery

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.38 Email sent to Department of Primary Industries and Regional Development (DPIRD) (22 September 2023)

Dear [Individual 12] and [Individual 13]

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 659 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 660 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and - Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and - Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: - A subsea tie back of two new wells to existing subsea infrastructure; and - A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 661 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 662 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>State Fisheries</u> Operational Area: Mackerel Managed Fishery (Schedule 2 – Area 2), Pilbara Trap Managed Fishery, Pilbara Line Fishery (Condition), West Coast Deep Sea Crustacean Managed Fishery EMBA: Abalone Managed Fishery, Abrolhos Islands and Mid West Trawl Managed Fishery, Broome Prawn Managed Fishery, Cockburn Sound (Line and Pot) Managed Fishery, Exmouth Gulf Beach Seine and Mesh Net Managed Fish, Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Managed Fishery, Hermit Crab Fishery, Mackerel Managed Fishery (Schedule 2 - Areas of the Fishery (Area 1, 2, & 3), Schedule 3), Joint Authority Southern Demersal Gillnet and Deme, Kimberley Crab Managed Fishery, Kimberley Gillnet and Barramundi Managed Fishery, Mandurah to Bunbury Developing Crab Fishery, Marine Aquarium Fish Managed Fishery, Nickol Bay Prawn Managed Fishery, Northern Demersal Scalefish Managed Fishery, Octopus Interim Managed Fishery, Onslow Prawn Managed Fishery, Open Access in the North Coast, Gascoyne Coast, Pearl Oyster Managed Fishery, Pilbara Fish Trawl (Interim) Managed Fishery, Pilbara Line Fishery (Condition), Pilbara Trap Managed Fishery, Shark Bay Crab Managed Fishery, Shark Bay Prawn Managed Fishery, Shark Bay Scallop Managed Fishery, South Coast Crustacean Managed Fishery, South Coast Estuarine Managed Fishery, South Coast Line and Fish Trap Managed Fishery, South Coast	<u>State Fisheries</u> Operational Area: Mackerel Managed Fishery (Schedule 2 – Area 2), Pilbara Line Fishery (Condition), West Coast Deep Sea Crustacean Managed Fishery EMBA: Abalone Managed Fishery, Abrolhos Islands and Mid West Trawl Managed Fishery, Broome Prawn Managed Fishery, Cockburn Sound (Fish Net) Managed Fishery, Cockburn Sound (Line and Pot) Managed Fishery, Exmouth Gulf Beach Seine and Mesh Net Managed Fish, Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Managed Fishery, Hermit Crab Fishery, Joint Authority Southern Demersal Gillnet and Deme, Kimberley Crab Managed Fishery, Kimberley Gillnet and Barramundi Managed Fishery, Kimberley Prawn Managed Fishery, Mackerel Managed Fishery (Schedule 2 - Areas of the Fishery (Area 1, 2, & 3), Schedule 3), Mandurah to Bunbury Developing Crab Fishery, Marine Aquarium Fish Managed Fishery, Nickol Bay Prawn Managed Fishery, Northern Demersal Scalefish Managed Fishery, Octopus Interim Managed Fishery, Onslow Prawn Managed Fishery, Open Access in the North Coast, Gascoyne Coast, Pearl Oyster Managed Fishery, Pearl Oyster Managed Fishery, Pilbara Crab Managed Fishery, Pilbara Fish Trawl (Interim) Managed Fishery, Pilbara Line Fishery (Condition), Pilbara Trap Managed Fishery, Shark Bay Beach Seine and Mesh Net Managed Fishery, Shark Bay Crab Managed Fishery, Shark Bay Prawn Managed Fishery, Shark Bay Scallop Managed

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 663 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Nearshore Net Managed Fishery, South Coast Purse-Seine Managed Fishery, South Coast Salmon Managed Fishery, South West Coast Beach Net Fishery (Order), South West Coast Salmon Managed Fishery, South West Trawl Fishery, Specimen Shell Managed Fishery, West Australian Sea Cucumber Fishery, West Coast (Beach Bait Fish Net) Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, West Coast Demersal Gillnet and Demersal Longline, West Coast Demersal Scalefish (Interim) Managed Fishery, West Coast Estuarine Managed Fishery, West Coast Purse Seine Fishery, West Coast Rock Lobster Managed Fishery	Fishery, South Coast Crustacean Managed Fishery, South Coast Estuarine Managed Fishery, South Coast Line and Fish Trap Managed Fishery, South Coast Nearshore Net Managed Fishery, South Coast Purse-Seine Managed Fishery, South Coast Salmon Managed Fishery, South West Coast Beach Net Fishery (Order), South West Coast Salmon Managed Fishery, South West Trawl Fishery, Specimen Shell Managed Fishery, Trochus Fishery, Warnbro Sound Crab Managed Fishery, West Australian Sea Cucumber Fishery, West Coast (Beach Bait Fish Net) Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, West Coast Demersal Gillnet and Demersal Longline, West Coast Demersal Scalefish (Interim) Managed Fishery, West Coast Estuarine Managed Fishery, West Coast Purse Seine Fishery, West Coast Rock Lobster Managed Fishery
--	--	---

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.39 Email sent to NT Fisheries (22 September 2023)

Dear NT Fisheries,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 664 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each

		of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 667 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		- Subsea support structures. Potential new infrastructure that could be installed in the next five years: - Two new wells - One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>Northern Territory Fisheries</u> Operational Area: Nil EMBA: Nil	<u>Northern Territory Fisheries</u> Operational Area: Nil EMBA: Northern Territory Demersal Managed Fishery, Northern Territory Offshore Net and Line Managed Fishery, Northern Territory Spanish Mackerel Managed Fishery, Northern Territory Aquarium Managed Fishery, Northern Territory Aquaculture Managed Fishery, Northern Territory Mollusc Managed Fishery, Northern Territory Mud Crab Managed Fishery

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for*

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 668 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.40 Email sent to Northern Territory Department of Industry, Tourism and Trade (DITT) – Mining and Energy; Northern Territory Department of Environment, Parks and Water Security (DEPWS); Northern Territory Environment Protection Authority (NTEPA) (22 September 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 669 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 670 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 671 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.41 Letter sent to Gascoyne Recreational Marine Users, Pilbara/Kimberley Recreational Marine Users, South Coast Recreational Marine Users, West Coast Recreational Marine Users (22 September 2023)



Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au

Woodside Energy Group Ltd
ACN 004 888 982
Mia Yellagonga
11 Mount Street
Perth WA 6000
Australia
T: +61 8 9348 4000
www.woodside.com

22 September 2023

Dear Stakeholder,

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 673 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our website at woodside.com. You can also choose to receive updates on our consultation activities by subscribing on our website.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our website at woodside.com. You can also choose to receive updates on our consultation activities by subscribing on our website.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline.

	• Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA. The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Regards,
Woodside Feedback



Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f **t** **in** **o** **@**

1.42 Letter sent to Northern Territory Aquarium Fish/Display Fish Fishery, Northern Territory Spanish Mackerel Fishery, Northern Territory Offshore Net & Line Fishery, Northern Territory Demersal Fishery, Northern Territory Mud Crab Fishery, Northern Territory Mollusc Fishery, Northern Territory Aquaculture Fishery (22 September 2023)

Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au



Woodside Energy Group Ltd
ACN 004 888 982
Mia Yellagonga
11 Mount Street
Perth WA 6000
Australia
T: +61 8 9348 4000
www.woodside.com

22 September 2023

Dear Stakeholder,

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 678 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our website at woodside.com. You can also choose to receive updates on our consultation activities by subscribing on our website.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and - Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and - Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: - A subsea tie back of two new wells to existing subsea infrastructure; and - A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.

Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>Northern Territory Fisheries</u> Operational Area: Nil EMBA: Nil	<u>Northern Territory Fisheries</u> Operational Area: Nil EMBA: Northern Territory Demersal Managed Fishery, Northern Territory Offshore Net and Line Managed Fishery, Northern Territory Spanish Mackerel Managed Fishery, Northern Territory Aquarium Managed Fishery, Northern Territory Aquaculture Managed Fishery, Northern Territory Mollusc Managed Fishery, Northern Territory Mud Crab Managed Fishery

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA. The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Regards,

Woodside Feedback

Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f t in v @

1.43 Letter sent to Christmas Island Line Fishery licence holder

Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au

22 September 2023

Dear Stakeholder,

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.



Woodside Energy Group Ltd

ACN 004 898 962

Mia Yellagonga
11 Mount Street
Perth WA 6000
Australia

T: +61 8 9348 4000

www.woodside.com

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our website woodside.com. You can also subscribe to receive updates on our consultation activities by subscribing on our website.

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and - Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and - Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: - A subsea tie back of two new wells to existing subsea infrastructure; and - A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.

Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Northern Prawn Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery, Cocos (Keeling) Islands Marine Aquarium Fish Fishery

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure on its website, nopsema.gov.au, entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Regards,

Woodside Feedback

Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f t in yd @

1.44 Email sent to 350 Australia (350A), Greenpeace Australia Pacific (GAP), Australian Conservation Foundation (ACF), Australian Marine Conservation Society (AMCS), Conservation Council of Western Australia (CCWA), Sea Shepherd Australia (SSA) (26 September 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 686 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 687 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
----------------	--	--

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.45 Email sent to Pearl Producers Association (26 September 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 689 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including:

		• A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules

	Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 692 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

1.46 Letter sent to Allasso Energy Pty Ltd, AWE Perth Pty Ltd, PBE Operations Pty Ltd (26 September 2023)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 693 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au

26 September 2023



Woodside Energy Group Ltd
ACN 004 898 962
Mia Yellagonga
11 Mount Street
Perth WA 6000
Australia
T: +61 8 9348 4000
www.woodside.com

Dear Titleholder,

**NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS
AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS**

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our website woodside.com. You can also subscribe to receive updates on our consultation activities by subscribing on our website.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 694 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and - Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and - Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: - A subsea tie back of two new wells to existing subsea infrastructure; and - A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure on its website, nopsema.gov.au, entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Regards,

Woodside Feedback



Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f t in y u

1.47 Email sent to Skye Napoleon; Petroleum; Resources (27 September 2023)

Dear Titleholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
------------------	------------------------------	---------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 698 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 699 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	--	--

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.48 Email sent to New Zealand Oil and Gas (NZOG) Compass (27 September 2023)

Dear Titleholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 701 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 702 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: 1 FPSO 1 Disconnectable Turret Mooring system, incorporating the risers 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and	Key infrastructure includes, but is not limited to: 1 FPSO 1 Disconnectable Turret Mooring system, incorporating the risers 6 flexible risers with buoyancy modules 28 Xmas trees/wells 4 Manifolds

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 703 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	1 flexible riser with buoyancy modules 27 Xmas trees/wells 10 Manifolds - Power and Control umbilicals - Umbilical Termination Assemblies (UTAs) - Flexible Flowlines and Jumpers - Subsea support structures.	- Power and Control umbilicals - Umbilical Termination Assemblies (UTAs) - Flexible and Rigid Flowlines and Jumpers - Multi-Phase Pumps - Subsea pig launch and receiver facility - Subsea support structures. Potential new infrastructure that could be installed in the next five years: - Two new wells - One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.49 Email sent to Karratha and Districts Chamber of Commerce and Industry (27 September 2023)

Dear Karratha and Districts Chamber of Commerce and Industry,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 704 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
------------------	------------------------------	---------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 705 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 706 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
---------	---	---

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.50 Email sent to Exmouth Chamber of Commerce and Industry (27 September 2023)

Dear Exmouth Chamber of Commerce and Industry,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 708 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 709 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		• A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers

	• 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for*

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 711 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.51 Email sent to Jurien Bay Chamber of Commerce and Industry, Lancelin Chamber of Commerce and Industry, Albany Chamber of Commerce and Industry, Bunbury Geographe Chamber of Commerce and Industry, Busselton Chamber of Commerce and Industry, Dunsborough Yallingup Chamber of Commerce and Industry, Capel Chamber of Commerce and Industry, Melville Cockburn Chamber of Commerce and Industry, Denmark Chamber of Commerce and Industry, Esperance Chamber of Commerce and Industry, Fremantle Chamber of Commerce and Industry, Peel Chamber of Commerce and Industry, Rockingham Kwinana Chamber of Commerce and Industry, Manjimup Chamber of Commerce and Industry, Nannup Chamber of Commerce and Industry, Augusta Chamber of Commerce and Industry (27 September 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

There are some questions and answers at the bottom of this email explaining why you have received this email.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 712 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each

		of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 714 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Subsea support structures.	- Subsea support structures. Potential new infrastructure that could be installed in the next five years: - Two new wells - One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Questions and Answers

Why have I received this email?

Your organisation has been identified by Woodside as potentially being relevant to consult with for Environment Plans relating to our operations of the Pyrenees Floating Production Storage and Offloading (FPSO) Facility and Ngujima-Yin FPSO Facility, located off Exmouth, WA.

Woodside consults relevant persons to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that could be taken to lessen or avoid potential effects of the operations on the environment. This is the intended outcome of consultation.

But I'm not located near Exmouth?

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 715 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Late last year a Federal Court decision looked at the way the Australian offshore energy industry consults relevant persons. Upon the establishment of this new case law, Woodside now consults much more broadly and consults with persons based on potential impacts from an unplanned event rather than planned impacts of a proposed offshore activity.

Woodside uses the environment that may be affected or 'EMBA' to help identify who may be a relevant person. This [brochure](#) from the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has more information regarding consultation on offshore petroleum environment plans.

What is an EMBA?

The environment that may be affected or EMBA is the largest area where unplanned events from the operations off Exmouth could have an environmental consequence (impact) based on modelling.

For the Pyrenees and Ngujima-Yin Facility Operations Environment Plans, the EMBA represents the merged area of many possible modelled paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of release. This is based on oil trajectory modelling.

What does oil trajectory modelling involve and why is the EMBA so big?

The process of identifying and mapping out an EMBA for each petroleum activity is primarily for assessment of potential impacts and oil spill response planning purposes. As the events that may lead to a spill are unknown, for planning purposes, the worst case credible spill scenario is identified. This looks at the worst case credible volume, location, timing etc, and modelling is undertaken to understand where the oil may go, if unmitigated (i.e. if no response strategies are applied).

To account for weather and ocean current variables, the spill scenario is modelled multiple times (typically 100 to 200 times) to see where the weather and ocean currents may take the oil.

All the modelled spill trajectories are then merged to create an EMBA. This means in the highly unlikely event a hydrocarbon release does occur, the entire EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known at the time of the release.

In order to be able to pre-prepare, response plans are built around the potential impacts resulting from a selection of the worst case modelling runs.

Where can I get more information?

For more information on consultation and oil spill modelling visit the [NOPSEMA website](#).

1.52 Email sent to Shire of East Pilbara (2 October 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 716 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 717 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	- Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: - A subsea tie back of two new wells to existing subsea infrastructure; and - A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 718 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Zone is also marked on nautical charts around the FPSO.	marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.53 Letter sent to Cocos (Keeling) Islands Marine Aquarium Fishery (3 October 2023)

Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au

03 October 2023

Dear Stakeholder,

**NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS
AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS**

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.



Woodside Energy Group Ltd

ACN 004 898 962

Mia Yellagonga
11 Mount Street
Perth WA 6000
Australia

T: +61 8 9348 4000

www.woodside.com

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 721 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our website woodside.com. You can also subscribe to receive updates on our consultation activities by subscribing on our website.

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and - Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and - Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: - A subsea tie back of two new wells to existing subsea infrastructure; and - A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.

Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Northern Prawn Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery, Cocos (Keeling) Islands Marine Aquarium Fish Fishery

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **02 November 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure on its website, nopsema.gov.au, entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Regards,

Woodside Feedback

Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f **t** **in** **u** **@**

1.54 Letter sent to Christmas Island Recreational Marine User (4 October 2023)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 725 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au



Woodside Energy Group Ltd

ACN 004 898 982

Mia Yellagonga

11 Mount Street

Perth WA 6000

Australia

T: +61 8 9348 4000

www.woodside.com

03 October 2023

Dear Stakeholder,

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 726 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our website at woodside.com. You can also choose to receive updates on our consultation activities by subscribing on our website.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities

		will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs)	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps

	- Flexible Flowlines and Jumpers - Subsea support structures.	- Subsea pig launch and receiver facility - Subsea support structures. Potential new infrastructure that could be installed in the next five years: - Two new wells - One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA. The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Regards,

Woodside Feedback



Woodside Energy
Mia Yellagonga
Kariak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f t in yd @

1.55 Email sent to National Energy Resources Australia (NERA) (5 October 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 730 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 731 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 732 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **06 November 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,
Woodside Feedback

1.56 Email sent to Australian Southern Blue Tuna Industry Association (ASBTIA) (12 October 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 733 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR)	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 734 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 735 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Northern Prawn Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery, Cocos (Keeling) Islands Marine Aquarium Fish Fishery

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

1.57 Email sent to Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (16 October 2023)

Dear DAFF – Biosecurity,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 737 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and	Continuation of activities: - Routine oil production, crude oil offloading and associated activities; - Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 738 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • a new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 739 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	marked on nautical charts around the FPSO.	Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offloading tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offloading tankers • IMMR support vessels including multi-purpose support vessels.

Relevant fisheries	<u>Commonwealth fisheries</u>	<u>Commonwealth fisheries</u>
	Operational Area: Nil EMBA: North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery	Operational Area: Nil EMBA: North West Slope Trawl Fishery, Northern Prawn Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery, Cocos (Keeling) Islands Marine Aquarium Fish Fishery

Biosecurity

With respect to biosecurity matters, please note the following information below:

Environment description

The Pyrenees Operational Area (which includes the FPSO and subsea infrastructure) is located in water depths of approximately 180 to 215 m on the outer continental shelf of the North West Shelf Province, approximately 45 km north of Exmouth. The seabed is generally flat and featureless, with some minor depressions and comprises primarily of soft sediment, which is consistent with the wider North West Shelf Province.

The Ngujima-Yin Operational Area (which includes the FPSO and subsea infrastructure) is located in water depths of approximately 340 to 850 m on the outer continental shelf and continental slope of the North West Shelf Province, approximately 57km north of Exmouth. The seabed in the north-east half of the Operational Area is relatively flat and featureless and comprises primarily of soft sediment which is consistent with the wider North West Shelf Province. The seabed in the south-west of the Operational Area intersects the Canyons linking the Cuvier Abyssal Plain Key Ecological Feature. A survey was undertaken in 2015 of the Enfield Canyon observed that the canyon comprised flat unconsolidated sediments composed of sand- and mud-sized particles and that the canyon does not appear significantly different than the surrounding region, with seabed habitats and deep-water biota being typical and representative in the wider region.

As such, the sediment throughout the Ngujima-Yin Operational Area are broadly consistent with those in the North West Shelf Province, which are characterised by fine to medium sediment (silts and sands) with patches of coarser sediments (shells/gravels).

Potential IMS risk	IMS risk mitigation management
Accidental introduction and establishment of invasive marine species	All vessels are required to comply with <i>the Australian Biosecurity Act 2015</i>, specifically the Australian Ballast Water Management Requirements (as defined under the Act) (aligned with the International Convention for the Control and Management of Ships' Ballast Water and Sediments) to prevent introducing Invasive Marine Species (IMS). Vessels entering the Operation Areas for Pyrenees and Ngujima-Yin will have Woodside's IMS risk assessment process applied, including for immersible equipment entering the Operation Area. Based on the outcomes of each IMS risk assessment, management measures

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 741 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

commensurate with the risk (such as the treatment of internal systems, IMS inspections or cleaning) will be implemented to minimise the likelihood of IMS being introduced.

Inspection of the FPSOs will be completed by a qualified IMS Inspector prior to return from international sail away.

Feedback

If you have feedback specific to the proposed activities described under the EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 **by 15 November 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,
Woodside Feedback

1.58 Email sent to Northern Prawn Fishery Industry Pty Ltd (18 October 2023)

Dear Northern Prawn Fishery Industry,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

We are consulting you on the recommendation of AFMA. We are also consulting individual licence holders in the Northern Prawn Fishery.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 742 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 743 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 744 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 745 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	IMMR support vessels including multi-purpose support vessels.	IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Northern Prawn Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery, Cocos (Keeling) Islands Marine Aquarium Fish Fishery

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **17 November 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,
Woodside Feedback

1.59 Email sent to Western Rock Lobster Council (30 October 2023)

Dear [Individual 14],

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 746 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 748 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 749 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>State Fisheries</u> Operational Area: Mackerel Managed Fishery (Schedule 2 – Area 2), Pilbara Trap Managed Fishery, Pilbara Line Fishery (Condition), West Coast Deep Sea Crustacean Managed Fishery EMBA: Abalone Managed Fishery, Abrolhos Islands and Mid West Trawl Managed Fishery, Broome Prawn Managed Fishery, Cockburn Sound (Line and Pot) Managed Fishery, Exmouth Gulf Beach Seine and Mesh Net Managed Fish, Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Managed Fishery, Hermit Crab Fishery, Mackerel Managed Fishery (Schedule 2 - Areas of the Fishery (Area 1, 2, & 3), Schedule 3), Joint Authority Southern Demersal Gillnet and Deme, Kimberley Crab Managed Fishery, Kimberley Gillnet and Barramundi Managed Fishery, Mandurah to Bunbury Developing Crab Fishery, Marine Aquarium Fish Managed Fishery, Nickol Bay Prawn Managed Fishery, Northern Demersal Scalefish Managed Fishery, Octopus Interim Managed Fishery, Onslow Prawn Managed Fishery, Open Access in the North Coast, Gascoyne Coast, Pearl Oyster Managed Fishery, Pilbara Fish Trawl (Interim) Managed Fishery, Pilbara Line Fishery (Condition), Pilbara Trap Managed Fishery, Shark Bay Crab Managed Fishery, Shark Bay Prawn Managed Fishery, Shark Bay	<u>State Fisheries</u> Operational Area: Mackerel Managed Fishery (Schedule 2 – Area 2), Pilbara Line Fishery (Condition), West Coast Deep Sea Crustacean Managed Fishery EMBA: Abalone Managed Fishery, Abrolhos Islands and Mid West Trawl Managed Fishery, Broome Prawn Managed Fishery, Cockburn Sound (Fish Net) Managed Fishery, Cockburn Sound (Line and Pot) Managed Fishery, Exmouth Gulf Beach Seine and Mesh Net Managed Fish, Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Managed Fishery, Hermit Crab Fishery, Joint Authority Southern Demersal Gillnet and Deme, Kimberley Crab Managed Fishery, Kimberley Gillnet and Barramundi Managed Fishery, Kimberley Prawn Managed Fishery, Mackerel Managed Fishery (Schedule 2 - Areas of the Fishery (Area 1, 2, & 3), Schedule 3), Mandurah to Bunbury Developing Crab Fishery, Marine Aquarium Fish Managed Fishery, Nickol Bay Prawn Managed Fishery, Northern Demersal Scalefish Managed Fishery, Octopus Interim Managed Fishery, Onslow Prawn Managed Fishery, Open Access in the North Coast, Gascoyne Coast, Pearl Oyster Managed Fishery, Pearl Oyster Managed Fishery, Pilbara Crab Managed Fishery, Pilbara Fish Trawl (Interim) Managed Fishery, Pilbara Line Fishery

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 750 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Scallop Managed Fishery, South Coast Crustacean Managed Fishery, South Coast Estuarine Managed Fishery, South Coast Line and Fish Trap Managed Fishery, South Coast Nearshore Net Managed Fishery, South Coast Purse-Seine Managed Fishery, South Coast Salmon Managed Fishery, South West Coast Beach Net Fishery (Order), South West Coast Salmon Managed Fishery, South West Trawl Fishery, Specimen Shell Managed Fishery, West Australian Sea Cucumber Fishery, West Coast (Beach Bait Fish Net) Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, West Coast Demersal Gillnet and Demersal Longline, West Coast Demersal Scalefish (Interim) Managed Fishery, West Coast Estuarine Managed Fishery, West Coast Purse Seine Fishery, West Coast Rock Lobster Managed Fishery	(Condition), Pilbara Trap Managed Fishery, Shark Bay Beach Seine and Mesh Net Managed Fishery, Shark Bay Crab Managed Fishery, Shark Bay Prawn Managed Fishery, Shark Bay Scallop Managed Fishery, South Coast Crustacean Managed Fishery, South Coast Estuarine Managed Fishery, South Coast Line and Fish Trap Managed Fishery, South Coast Nearshore Net Managed Fishery, South Coast Purse-Seine Managed Fishery, South Coast Salmon Managed Fishery, South West Coast Beach Net Fishery (Order), South West Coast Salmon Managed Fishery, South West Trawl Fishery, Specimen Shell Managed Fishery, Trochus Fishery, Warnbro Sound Crab Managed Fishery, West Australian Sea Cucumber Fishery, West Coast (Beach Bait Fish Net) Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, West Coast Demersal Gillnet and Demersal Longline, West Coast Demersal Scalefish (Interim) Managed Fishery, West Coast Estuarine Managed Fishery, West Coast Purse Seine Fishery, West Coast Rock Lobster Managed Fishery
--	--	---

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **20 November 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for*

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 751 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,
Woodside Feedback

1.60 Email sent to Shire of Shark Bay (31 October 2023)

Dear [Individual 15], [– Individual 16] and [Individual 17],

Following Woodside's recent visit, please find an overview of proposed Woodside activities you may be interested in providing feedback on.

Also below is the previous email we sent to admin@sharkbay.wa.gov.au on 16 October regarding the Ngujima-Yin FPSO Facility Operations and Pyrenees Facility Operations Environment Plans.

Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

Woodside is planning to submit five-year revisions of the Ngujima-Yin FPSO Facility Operations and Pyrenees Facility Operations EPs:

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Scarborough Offshore Facility and Trunkline Operations EP:

Woodside is planning to submit the Scarborough Offshore Facility and Trunkline Operations Environment Plan which involves the installation of a Floating Production Unit (FPU) and complete subsequent hook-up and commissioning activities, prior to start-up and operations within Production Licences WA-61-L and WA-62-L. Gas from the FPU will be transferred through the gas export trunkline (the Trunkline - Pipeline Licence WA-32-PL) to the Pluto LNG Plant for further processing.

The FPU will be installed and connected to a pre-installed 20-point suction-piled mooring system and the riser pull-in(s) carried out. Hook-up and connection to subsea infrastructure will also occur, prior to commissioning.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 752 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The commissioning activity involves:

- Dewatering and commissioning of the subsea production system, comprising wellheads, manifolds, flowlines, umbilicals, and communication lines.
- Activities to confirm the integrity of the entire interconnected facility, so it is ready for start-up (RFSU) with the introduction of reservoir hydrocarbons.

The FPU start-up consists of initiating the subsea production system and FPU to allow reservoir gas and processing equipment to reach operational pressures and temperatures, as well as obtaining sufficient and stable equipment inlet flow to enable the equipment to perform to design criteria. Well clean-up and commissioning will also be carried out and gas export trunkline pressurisation and nitrogen (N₂) removal.

Routine production operations involve transfer of reservoir fluids, including gas and produced water from the reservoir, along with Mono Ethylene Glycol (MEG) injection at the wells, through the subsea infrastructure to the FPU; and gas export via the Trunkline.

Other activities include gravimetry surveys for the purposes of reservoir monitoring, as well as IMMR activities on the FPU, subsea infrastructure (excluding well intervention or well workover activities) and gas export trunkline, and other contingent activities.

Consultation Information Sheets

Consultation Information Sheets are attached, which provide additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Feedback

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **13 November 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,
Woodside Feedback

1.61 Email sent to Department of Biodiversity, Conservation and Attractions' (DBCA) Shark Bay office (31 October 2023)

Dear [Individual 18] and [Individual 19]

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 753 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside recently met with the Shire of Shark Bay who advised you may be interested in and have feedback on the following proposed Woodside activities. We have also consulted the central DBCA agency which has provided feedback regarding the establishment of baseline survey data for nearby areas of ecological importance, light pollution guidelines, and the 'Incidents and Emergency Response' process.

Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

Woodside is planning to submit five-year revisions of the Ngujima-Yin FPSO Facility Operations and Pyrenees Facility Operations EPs:

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Scarborough Offshore Facility and Trunkline Operations EP:

Woodside is planning to submit the Scarborough Offshore Facility and Trunkline Operations Environment Plan which involves the installation of a Floating Production Unit (FPU) and complete subsequent hook-up and commissioning activities, prior to start-up and operations within Production Licences WA-61-L and WA-62-L. Gas from the FPU will be transferred through the gas export trunkline (the Trunkline - Pipeline Licence WA-32-PL) to the Pluto LNG Plant for further processing.

The FPU will be installed and connected to a pre-installed 20-point suction-piled mooring system and the riser pull-in(s) carried out. Hook-up and connection to subsea infrastructure will also occur, prior to commissioning.

The commissioning activity involves:

- Dewatering and commissioning of the subsea production system, comprising wellheads, manifolds, flowlines, umbilicals, and communication lines.
- Activities to confirm the integrity of the entire interconnected facility, so it is ready for start-up (RFSU) with the introduction of reservoir hydrocarbons.

The FPU start-up consists of initiating the subsea production system and FPU to allow reservoir gas and processing equipment to reach operational pressures and temperatures, as well as obtaining

sufficient and stable equipment inlet flow to enable the equipment to perform to design criteria. Well clean-up and commissioning will also be carried out and gas export trunkline pressurisation and nitrogen (N₂) removal.

Routine production operations involve transfer of reservoir fluids, including gas and produced water from the reservoir, along with Mono Ethylene Glycol (MEG) injection at the wells, through the subsea infrastructure to the FPU; and gas export via the Trunkline.

Other activities include gravimetry surveys for the purposes of reservoir monitoring, as well as IMMR activities on the FPU, subsea infrastructure (excluding well intervention or well workover activities) and gas export trunkline, and other contingent activities.

Consultation Information Sheets

Consultation Information Sheets are attached, which provide additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Feedback

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **13 November 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [*Consultation on offshore petroleum environment plans – Information for the Community*](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,
Woodside Feedback

1.62 Email sent to [Individual 1] MLA, Shark Bay Aviation, Mac Attack Fishing Charters, Shark Bay Charters, Shark Bay Coastal Tours, Naturetime Tours, Perfect Nature Cruises, Shark Bay Community Resource Centre, Wula Gura Nyinda Eco Cultural Tours, Ocean Park, Tidal Moon, RAC Monkey Mia, Dirk Hartog Island (31 October 2023)

Dear Stakeholder,

Woodside recently met with the Shire of Shark Bay who advised you may be interested in and have feedback on the following proposed Woodside activities:

Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 755 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

Woodside is planning to submit five-year revisions of the Ngujima-Yin FPSO Facility Operations and Pyrenees Facility Operations EPs:

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Scarborough Offshore Facility and Trunkline Operations EP:

Woodside is planning to submit the Scarborough Offshore Facility and Trunkline Operations Environment Plan which involves the installation of a Floating Production Unit (FPU) and complete subsequent hook-up and commissioning activities, prior to start-up and operations within Production Licences WA-61-L and WA-62-L. Gas from the FPU will be transferred through the gas export trunkline (the Trunkline - Pipeline Licence WA-32-PL) to the Pluto LNG Plant for further processing.

The FPU will be installed and connected to a pre-installed 20-point suction-piled mooring system and the riser pull-in(s) carried out. Hook-up and connection to subsea infrastructure will also occur, prior to commissioning.

The commissioning activity involves:

- Dewatering and commissioning of the subsea production system, comprising wellheads, manifolds, flowlines, umbilicals, and communication lines.
- Activities to confirm the integrity of the entire interconnected facility, so it is ready for start-up (RFSU) with the introduction of reservoir hydrocarbons.

The FPU start-up consists of initiating the subsea production system and FPU to allow reservoir gas and processing equipment to reach operational pressures and temperatures, as well as obtaining sufficient and stable equipment inlet flow to enable the equipment to perform to design criteria. Well clean-up and commissioning will also be carried out and gas export trunkline pressurisation and nitrogen (N₂) removal.

Routine production operations involve transfer of reservoir fluids, including gas and produced water from the reservoir, along with Mono Ethylene Glycol (MEG) injection at the wells, through the subsea infrastructure to the FPU; and gas export via the Trunkline.

Other activities include gravimetry surveys for the purposes of reservoir monitoring, as well as IMMR activities on the FPU, subsea infrastructure (excluding well intervention or well workover activities) and gas export trunkline, and other contingent activities.

Consultation Information Sheets

Consultation Information Sheets are attached, which provide additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Feedback

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **13 November 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,

Woodside Feedback

1.63 Email sent to Murujuga Aboriginal Corporation (MAC) (17 November 2023)

Hi there [Individual 20]

I'm not sure if you have received this information already so my apologies if this is a double up.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 757 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities.

Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

The summary information sheet explaining the activities we plan to undertake can be found [here](#), and detailed consultation information sheets can be found on the external Woodside website <https://www.woodside.com/sustainability/consultation-activities>

Woodside is seeking to understand the nature of the interests that MAC and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know as soon as possible. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to MAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with MAC members, the MAC Board, Elders and office holders and any other interested parties.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 758 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist MAC in any way to participate in these processes.

Kind regards

1.64 Email sent to Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC) (23 October 2023)

Hi there [Individual 21] and [Individual 22]

I hope you are both well.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities.

Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

The summary information sheet explaining the activities we plan to undertake can be found [here](#), and detailed consultation information sheets can be found on the external Woodside website <https://www.woodside.com/sustainability/consultation-activities>

Woodside is seeking to understand the nature of the interests that NTGAC and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **20 November 2023** please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to NTGAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with NTGAC members, the NTGAC Board, Elders and office holders and any other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist NTGAC in any way to participate in these processes.

Many thanks,

1.65 Email sent to Buurabalayji Thalanyji Aboriginal Corporation (BTAC) (11 October 2023)

Dear [Individual 23] and [Individual 24],

I write regarding Woodside's Pyrenees and Ngujima-Yin operations, located 45 and 57km north of the Exmouth coast.

Woodside is planning to submit five-year revisions of the Ngujima-Yin and Pyrenees operations environment plans (EPs). Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively, and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected (EMBA) by these activities that have not yet been afforded the opportunity to provide information that may inform the management of the activities.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 760 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview:

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached a summary information sheet that explains the activities we plan to undertake, and a detailed consultation information sheet can be found at the link below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that BTAC and its members may have in the 'environment that may be affected' (EMBA) by the activities. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information and consultation information sheet. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 11 November 2023, and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 761 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to BTAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with BTAC members, the BTAC Board, elders and office holders and other interested parties.

We look forward to hearing from you, and as always, please be in contact if you require further information and if Woodside can assist BTAC in any way to participate in these processes.

Yours sincerely

1.66 Email sent to Yinggarda Aboriginal Corporation (YAC) (11 October 2023)

Dear [Individual 23] and [Individual 24],

I write regarding Woodside's Pyrenees and Ngujima-Yin operations, located 45 and 57km north of the Exmouth coast.

Woodside is planning to submit five-year revisions of the Ngujima-Yin and Pyrenees operations environment plans (EPs). Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively, and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected (EMBA) by these activities that have not yet been afforded the opportunity to provide information that may inform the management of the activities.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 762 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached a summary information sheet that explains the activities we plan to undertake, and a detailed consultation information sheet can be found at the link below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that YAC and its members may have in the 'environment that may be affected' (EMBA) by the activities. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information and consultation information sheet. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 11 November 2023, and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to YAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with YAC members, the YAC Board, elders and office holders and other interested parties.

We look forward to hearing from you, and as always, please be in contact if you require further information and if Woodside can assist YAC in any way to participate in these processes.

Yours sincerely

1.67 Email sent to Kariyarra Aboriginal Corporation (18 October 2023)

Hi [Individual 25]

I understand Woodside has not yet responded to your most recent email, however I feel it is important to send the most current environment plan information to Kariyarra Aboriginal Corporation for their awareness.

The attached Environment plan is for existing operating FPSO's and not a new project. Ngujima-Yin commenced operation in 2008 and Pyrenees 2010, however Woodside are required to submit 5 yearly revision plans.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's), we are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.**

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that Kariyarra Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental

impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 17-November 2023 and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700. Please also feel free to forward this email and the attached documents to Kariyarra Aboriginal Corporation members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Kariyarra Aboriginal Corporation members, the Kariyarra Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Kariyarra Aboriginal Corporation in any way to participate in these processes.

1.68 Email sent to Wirrawandi Aboriginal Corporation (WAC) (3 October 2023)

Good morning, [Individual 26]

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 765 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake.

Woodside is seeking to understand the nature of the interests that **WAC** and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **2nd November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to WAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with WAC members, the WAC Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist WAC in any way to participate in these processes.

Regards,

1.69 Email sent to Robe River Kuruma Aboriginal Corporation (RRKAC) (3 October 2023)

Good morning [Individual 27],

My name is [Individual 28], and I will be acting as the contact person for RRAK and for the rest of the groups in the Pilbara. [Individual 29] will now be focused on supporting the Corporations in the Northern Territory, so if there is anything you need, please reach out.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities.

Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

-  [Summary Information Sheet - Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations EPs.pdf](#)

Woodside is seeking to understand the nature of the interests that **RRKAC** and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached

Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **2nd November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to **RRAC** members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with **RRAC** members, the **RRAC** Board, elders and office holders and other interested parties.

As always, please be in contact if you require further information and if Woodside can assist **RRAC** in any way to participate in these processes.

I really look forward to working with yourself and the RRAC community [Individual 27]. So, please contact me any time if you would like to discuss this or any other matter.

Regards,

1.70 Email sent to Ngarluma Aboriginal Corporation (NAC) (17 November 2023)

Hi there [Individual 30]

My name is [Individual 31]. It's great to virtually meet you. I understand NAC is under significant pressure at the moment and [Individual 32] has informed me that all EP related interactions will cease until after your AGM. I send this to you as information for your consideration and don't expect to hear back from you until the end of the month at the earliest. I have highlighted this EP as one to discuss and provided a link to the information sheet to [Individual 32] previously.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 768 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities.

Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

The summary information sheet explaining the activities we plan to undertake can be found [here](#), and detailed consultation information sheets can be found on the external Woodside website <https://www.woodside.com/sustainability/consultation-activities>

Woodside is seeking to understand the nature of the interests that NAC and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know after your AGM has passed. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to NAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with NAC members, the NAC Board, Elders and office holders and any other interested parties.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 769 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

We look forward to hearing from you and all the best for the AGM.

As always, please be in contact if you require further information and if Woodside can assist NAC in any way to participate in these processes.

Kind regards

1.71 Email sent to NYFL on behalf of both NYFL and Yindjibarndi Aboriginal Corporation (19 October 2023)

Good afternoon, [Individual 33],

It was great to see you [Individual 34] and [Individual 35] last week. As mentioned, we still need to continue to progress our Environmental Plans while the agreement modernisation project takes place. I have spoken with [Individual 29], and he mentioned that you had sent through a proposal on a new consultation framework. Are you available to meet in the next few weeks so we can sit with [Individual 29] and discuss?

I have attached information relating to our most recent EP which I have provided for the benefit of both NYFL and YAC. If you have any questions or would like to schedule a consultation session, please let me know.

Regards

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 770 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

-  [Summary Information Sheet - Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations EPs.pdf](#)

Woodside is seeking to understand the nature of the interests that **NYFL & YAC** and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **20th November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700. Please also feel free to forward this email and the attached documents to **NYFL & YAC** members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with **NYFL & YAC** members, the **NYFL & YAC** Boards, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist **NYFL & YAC** in any way to participate in these processes.

Sincerely,

1.72 Email sent to Wanparta Aboriginal Corporation (5 October 2023)

Hi [Individual 36]

Following up on our discussion yesterday.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 771 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5-year revisions.

We are writing to you to ask if you are aware of any Persons, who in accordance with Wanparta tradition, may have spiritual and cultural connections to the **Environment that May Be Affected** ('EMBA') by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities.

Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance, and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

Ngujima-Yin & Pyrenees Floating Production Storage and Offloading (FPSO) Facility Operations

Woodside is seeking to understand the nature of the interests that Wanparta Aboriginal Corporation and its members may have in the EMBA by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns.
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by Monday, **6 November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to Wanparta Aboriginal Corporation Members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Wanparta Aboriginal Corporation Members, the Wanparta Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Wanparta Aboriginal Corporation in any way to participate in these processes.

Kind regards

1.73 Email sent to Malgana Aboriginal Corporation (11 October 2023)

Dear [Individual 37]

I hope this message finds you well. I write regarding Woodside's Pyrenees and Ngujima-Yin operations, located 45 and 57km north off the Exmouth coast.

Woodside is planning to submit five-year revisions of the Ngujima-Yin and Pyrenees operations environment plans (EPs). Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively, and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected (EMBA) by these activities that have not yet been afforded the opportunity to provide information that may inform the management of the activities.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 773 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached a summary information sheet that explains the activities we plan to undertake, and a detailed consultation information sheet can be found at the link below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that MAC and its members may have in the 'environment that may be affected' (EMBA) by the activities. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information and consultation information sheet. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 11 November 2023, and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to MAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with MAC members, the MAC Board, elders and office holders and other interested parties.

We look forward to hearing from you, and as always, please be in contact if you require further information and if Woodside can assist MAC in any way to participate in these processes.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 774 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Yours sincerely
[Individual 38]

1.74 Email sent to Ngadju Native Title Aboriginal Corporation (16 October 2023)

Hi [Individual 39]

I left a voice message earlier and after speaking with [Individual 40], I understand you are currently very busy. I am happy to talk you through the below information and if preferred, meet with Ngadju Native Title Aboriginal Corporation in Norseman or Perth to explain the new NOPSEMA guidelines, EMBA (Environment May Be Affected) and the Environment Plans (EP's).

Under the new NOPSEMA guidelines, Woodside Energy is required to engage with relevant PBC's that are included in an Environment Plan EMBA. These EMBA's are created using modelling of around 200 different scenarios and then a line is drawn around, to capture the 200 scenarios which in turn creates a large EMBA. The EMBA is West of Esperance however we generally reach out to Aboriginal Corporations that sit close by and the coastal Ngadju ILUA (East of Cape Adrid) is the reason we are sending Ngadju Native Title Aboriginal Corporation the EP information.

The attached Environment plan is for existing operating FPSO's and not for a new project, Ngujima-Yin commenced operation in 2008 and Pyrenees 2010, however Woodside are required to submit 5 yearly revision plans.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's), we are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities.
Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 775 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that Ngadju Native Title Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 15-November 2023 and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to Ngadju Native Title Aboriginal Corporation and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Ngadju Native Title Aboriginal Corporation members, the Ngadju Native Title Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Ngadju Native Title Aboriginal Corporation in any way to participate in these processes.

Regards,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 776 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

1.75 Email sent to Balanggarra Aboriginal Corporation (2 October 2023)

Good afternoon Balanggarra Aboriginal Corporation,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5-year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities.

Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance, and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

[Ngujima-Yin & Pyrenees Floating Production Storage and Offloading \(FPSO\) Facility Operations](#)

Woodside is seeking to understand the nature of the interests that Balanggarra Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 777 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by Wednesday, **1 November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to Balanggarra Aboriginal Corporation Members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Balanggarra Aboriginal Corporation Members, the Balanggarra Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Balanggarra Aboriginal Corporation in any way to participate in these processes.

Kind regards

1.76 Email sent to Dambimangari Aboriginal Corporation (2 October 2023)

Good afternoon Dambimangari Aboriginal Corporation,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5-year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 778 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance, and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

[Ngujima-Yin & Pyrenees Floating Production Storage and Offloading \(FPSO\) Facility Operations](#)

Woodside is seeking to understand the nature of the interests that Dambimangari Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns.
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by Wednesday, **1 November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to Dambimangari Aboriginal Corporation Members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Dambimangari Aboriginal Corporation Members, the Dambimangari Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Dambimangari Aboriginal Corporation in any way to participate in these processes.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 779 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Kind regards

1.77 Email sent to Kimberley Land Council (19 October 2023)

Dear [Individual 41]

Nice to be writing to you although in a very different context to our past communications. As you see I am currently consulting with Woodside, it would be lovely to catch up at some stage when I am in Broome.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are due to the industry required 5-year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities.

Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 780 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside is seeking to understand the nature of the interests Kimberley Land Council (KLC) and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values.
- your concerns about the proposed activity and what you think we should do about those concerns.
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 20 November 2023 please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsma.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to KLC, members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with KLC members, the KLC Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist KLC in any way to participate in these processes.

Kind regards

[Individual 42]

1.78 Email sent to Nanda Aboriginal Corporation (23 October 2023)

Hi there [Individual 21] and [Individual 22]

You would have received my previous email in relation to the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees EPs. This email contains the same information for you to provide to Nanda Aboriginal Corporation.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 781 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

The summary information sheet explaining the activities we plan to undertake can be found [here](#), and detailed consultation information sheets can be found on the external Woodside website <https://www.woodside.com/sustainability/consultation-activities>

Woodside is seeking to understand the nature of the interests that Nanda Aboriginal Corporation (Nanda) and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **20 November 2023** please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *[Consultation on offshore petroleum environment plans – Information for the Community](#)* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 782 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Please also feel free to forward this email and the attached documents to Nanda members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Nanda members, the Nanda Board, Elders and office holders and any other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Nanda in any way to participate in these processes.

Many thanks

[Individual 31]

1.79 Email sent to Gogolanyngor Aboriginal Corporation (GAC) (6 October 2023)

Hi [Individual 43]

Hope all is well mate.

I will be up in Broome next week and if you are in Broome on R&R, maybe we can have lunch.

The attached Environment plan is for existing operating FPSO's and not for a new project. Ngujima-Yin commenced operation in 2008 and Pyrenees 2010, however Woodside are required to submit 5 yearly revision plans.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's), we are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.**

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 783 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that Gogolanyngor Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 6-November 2023 and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to Gogolanyngor Aboriginal Corporation and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Gogolanyngor Aboriginal Corporation members, the Gogolanyngor Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Gogolanyngor Aboriginal Corporation in any way to participate in these processes.

Regards,
[Individual 29]

1.80 Email sent to Wanjina-Wunggurr (Native Title) Aboriginal Corporation (WWAC) (2 October 2023)

Good afternoon Wanjina-Wunggurr (Native Title) Aboriginal Corporation,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5-year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities.

Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance, and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

[Ngujima-Yin & Pyrenees Floating Production Storage and Offloading \(FPSO\) Facility Operations](#)

Woodside is seeking to understand the nature of the interests that Wanjina-Wunggurr (Native Title) Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 785 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by Wednesday, **1 November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to Wanjina-Wunggurr (Native Title) Aboriginal Corporation Members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Wanjina-Wunggurr (Native Title) Aboriginal Corporation Members, the Wanjina-Wunggurr (Native Title) Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Wanjina-Wunggurr (Native Title) Aboriginal Corporation in any way to participate in these processes.

Kind regards
[Individual 44]

1.81 Email sent to Karajarri Traditional Lands Association (Aboriginal Corporation) (KTLA) (2 October 2023)

Good afternoon Karajarri Traditional Lands Association,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5-year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 786 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance, and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

Ngujima-Yin & Pyrenees Floating Production Storage and Offloading (FPSO) Facility Operations

Woodside is seeking to understand the nature of the interests that Karajarri Traditional Lands Association and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns.
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by Wednesday, 1 November 2023 and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to Karajarri Traditional Lands Association Members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Karajarri Traditional Lands Association Members, the Karajarri Traditional Lands Association Board, elders and office holders and other interested parties.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 787 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Karajarri Traditional Lands Association in any way to participate in these processes.

Kind regards

[Individual 44]

1.82 Email sent to Mayala Inninalang Aboriginal Corporation (13 October 2023)

Good afternoon Mayala Inninalang Aboriginal Corporation,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5-year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance, and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

[Ngujima-Yin & Pyrenees Floating Production Storage and Offloading \(FPSO\) Facility Operations](#)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 788 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside is seeking to understand the nature of the interests that Mayala Inninalang Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns.
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by Monday, **13 November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700. Please also feel free to forward this email and the attached documents to Mayala Inninalang Aboriginal Corporation Members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Mayala Inninalang Aboriginal Corporation Members, the Mayala Inninalang Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Mayala Inninalang Aboriginal Corporation in any way to participate in these processes.

Kind regards

1.83 Email sent to Nyangumarta Warrarn Aboriginal Corporation (2 October 2023)

Good afternoon Nyangumarta Warrarn Aboriginal Corporation,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5-year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.

The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance, and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

Ngujima-Yin & Pyrenees Floating Production Storage and Offloading (FPSO) Facility Operations

Woodside is seeking to understand the nature of the interests that Nyangumarta Warrarn Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns.
- whether there are any other individuals, groups, or organisations you think we should talk to.
- If you would like to speak with us, please let us know by Wednesday, 1 November 2023 and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled Consultation on offshore petroleum environment plans – Information for the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 790 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to Nyangumarta Warrarn Aboriginal Corporation Members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Nyangumarta Warrarn Aboriginal Corporation members, the Nyangumarta Warrarn Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Nyangumarta Warrarn Aboriginal Corporation in any way to participate in these processes.

Kind regards

1.84 Email sent to Nyangumarta Karajarri Aboriginal Corporation (13 October 2023)

Good afternoon Nyangumarta Karajarri Aboriginal Corporation,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5-year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance, and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 791 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

Ngujima-Yin & Pyrenees Floating Production Storage and Offloading (FPSO) Facility Operations

Woodside is seeking to understand the nature of the interests that Nyangumarta Karajarri Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns.
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by Monday, **13 November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700. Please also feel free to forward this email and the attached documents to Nyangumarta Karajarri Aboriginal Corporation Members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Nyangumarta Karajarri Aboriginal Corporation Members, the Nyangumarta Karajarri Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Nyangumarta Karajarri Aboriginal Corporation in any way to participate in these processes.

Kind regards

1.85 Email sent to Yawuru Native Title Holders Aboriginal Corporation (19 October 2023)

Dear [Individual 45]

Hello, we haven't spoken in a while, I am currently consulting with Woodside and will be the focal for Yawuru Prescribed Body Corporate (Yawuru PBC). I very much look forward to us meeting up again.

Below is information for Yawuru PBC in relation to some planned Woodside activities.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are due to the industry required 5-year revisions.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 792 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests Yawuru PBC and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values.
- your concerns about the proposed activity and what you think we should do about those concerns.
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 20 November 2023 please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled Consultation on offshore petroleum environment plans – Information for the Community to help community members understand consultation requirements for

Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to Yawuru PBC, members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Yawuru PBC members, the Yawuru PBC Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Yawuru PBC in any way to participate in these processes.

Kind regards

[Individual 42]

1.86 Email sent to Esperance Tjaltjraak Native Title Aboriginal Corporation (ETNTAC) (3 October 2023)

Good morning [Individual 46],

As mentioned, Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities.

Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 794 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

-  [Summary Information Sheet - Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations EPs.pdf](#)

Woodside is seeking to understand the nature of the interests that **ETNTAC** and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **2nd November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to **ETNTAC** members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with **ETNTAC** members, the **ETNTAC** Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist **ETNTAC** in any way to participate in these processes.

Regards,
[Individual 28]

1.87 Email sent to Bundi Yamatji Aboriginal Corporation (11 October 2023)

Dear [Individual 47]

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 795 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Further to our correspondence below about Woodside's decommissioning and project activities, I write regarding Woodside's Pyrenees and Ngujima-Yin operations, located 45 and 57km north of the Exmouth coast.

Woodside is planning to submit five-year revisions of the Ngujima-Yin and Pyrenees operations environment plans (EPs). Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively, and the EPs being submitted are the industry required 5-year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected (EMBA) by these activities that have not yet been afforded the opportunity to provide information that may inform the management of the activities.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached a summary information sheet that explains the activities we plan to undertake, and a detailed consultation information sheet can be found at the link below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that BYAC and its members may have in the 'environment that may be affected' (EMBA) by the activities. The EMBA is the total area over

which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information and consultation information sheet. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 11 November 2023, and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to BYAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with BYAC members, the BYAC Board, elders and office holders and other interested parties.

We look forward to hearing from you, and as always, please be in contact if you require further information and if Woodside can assist BYAC in any way to participate in these processes.

Yours sincerely

1.88 Email to Gnaala Karla Booja Aboriginal Corporation (11 October 2023)

Dear [Individual 48]

Further to our discussion earlier today, I write regarding Woodside's Pyrenees and Ngujima-Yin operations, located 45 and 57km north of the Exmouth coast.

Woodside is planning to submit five-year revisions of the Ngujima-Yin and Pyrenees operations environment plans (EPs). Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively, and the EPs being submitted are the industry required 5 year revisions. While these operations are located in the Pilbara region, modelling can indicate that the 'environment that may be affected' (EMBA) from an unlikely unplanned event associated with Woodside's offshore activities could, depending on the currents, wind and tide for example, extend to the south of WA.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected (EMBA) by these activities that have not yet been afforded the opportunity to provide information that may inform the management of the activities.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.

- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached a summary information sheet that explains the activities we plan to undertake, and a detailed consultation information sheet can be found at the link below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that GKBAC and its members may have in the 'environment that may be affected' (EMBA) by the activities. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information and consultation information sheet. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 11 November 2023, and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 798 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to GKBAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with GKBAC members, the GKBAC Board, elders and office holders and other interested parties.

We look forward to hearing from you, and as always, please be in contact if you require further information and if Woodside can assist GKBAC in any way to participate in these processes.

Yours sincerely

1.89 Email to Karri Karrak Aboriginal Corporation (11 October 2023)

Dear [Individual 49],

Further to my email of 15 September regarding Woodside's offshore Stybarrow Plug and Abandonment Activity, I write regarding Woodside's Pyrenees and Ngujima-Yin operations, located 45 and 57km north of the Exmouth coast.

Woodside is planning to submit five-year revisions of the Ngujima-Yin and Pyrenees operations environment plans (EPs). Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively, and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected (EMBA) by these activities that have not yet been afforded the opportunity to provide information that may inform the management of the activities.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 799 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached a summary information sheet that explains the activities we plan to undertake, and a detailed consultation information sheet can be found at the link below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that KKAC and its members may have in the 'environment that may be affected' (EMBA) by the activities. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information and consultation information sheet. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 11 November 2023, and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to KKAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with KKAC members, the KKAC Board, elders and office holders and other interested parties.

We look forward to hearing from you, and as always, please be in contact if you require further information and if Woodside can assist KKAC in any way to participate in these processes.

Yours sincerely

1.90 Email to Wagyl Kaip Southern Noongar Aboriginal Corporation (31 October 2023)

Dear [Individual 50]

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 800 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

By way of introduction my name is [Individual 29] and I work in Woodside's First Nations Relations Team. I hope this messages finds you well.

[Individual 46] from Esperance Tjaltjraak Native Title Aboriginal Corporation was kind enough to share your contact details with us.

I write regarding Woodside's Pyrenees and Ngujima-Yin operations, located 45 and 57km north of the Exmouth coast.

Woodside is planning to submit five-year revisions of the Ngujima-Yin and Pyrenees operations environment plans (EPs). Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively, and the EPs being submitted are the industry required 5 year revisions. While these operations are located in the Pilbara region, modelling can indicate that the 'environment that may be affected' (EMBA) from an unlikely unplanned event associated with Woodside's offshore activities could, depending on the currents, wind and tide for example, extend to the south of WA. These EMBA's are created using modelling of approximately 200 various scenarios and then a line is drawn around these 200 scenarios, which in turn creates a large EMBA.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected (EMBA) by these activities that have not yet been afforded the opportunity to provide information that may inform the management of the activities.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached a summary information sheet that explains the activities we plan to undertake, and a detailed consultation information sheet can be found at the link below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that WKSAC has in its own right, and the Traditional Custodians that WKSAC represents, may have in the 'environment that may be affected' (EMBA) by the activities. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information and consultation information sheet. In particular, we are interested in hearing:

- how the activity could impact WKSAC interests, activities and / or cultural values, and those of the Traditional Custodians that WKSAC represents
- WKSAC concerns, and the concerns of the Traditional Custodians that WKSAC represents, about the proposed activity and what should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 30 November 2023, and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also forward this email and the attached documents to WKSAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with WKSAC members, the WKSAC Board, elders and office holders and other interested parties.

We look forward to hearing from you, and please be in contact if you require further information and if Woodside can assist WKSAC in any way to participate in these processes.

Yours sincerely,

1.91 Email sent to Whadjuk Aboriginal Corporation (9 October 2023)

Hello [Individual 51] and [Individual 52]

I hope you are both well.

Woodside is seeking to consult with Whadjuk Aboriginal Corporation with regards to two Environment Plans, for continued operation of existing operating facilities that are located north of Exmouth.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 802 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry-required 5 year revisions.

I am writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached the summary information sheet that explains the activities we plan to undertake, and detailed consultation information sheets can be found at the link below:

- [Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations EPs](#)

Woodside is seeking to understand the nature of the interests that Whadjuk Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **10 November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700. Please also feel free to forward this email and the attached documents to Whadjuk members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Whadjuk members, the Whadjuk Board, Cultural Advice Committee, office holders and other interested parties.

I look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Whadjuk AC in any way to participate in these processes.

Kind regards,

[Individual 53]

1.92 Email sent to Yued Aboriginal Corporation (9 October 2023)

Hello [Individual 54],

As discussed last week, Woodside is seeking to consult with Yued with regards to a further two Environment Plans. Both of these EPs are for continued operation of existing operating facilities that are located north of Exmouth.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry-required 5 year revisions.

I am writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 804 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached the summary information sheet that explains the activities we plan to undertake, and detailed consultation information sheets can be found at the link below:

- [Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations EPs](#)

Woodside is seeking to understand the nature of the interests that Yued Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by **10 November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700. Please also feel free to forward this email and the attached documents to Yued AC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Yued members, the Yued Board, Cultural Advice Committee, office holders and other interested parties.

I look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Yued AC in any way to participate in these processes.

Kind regards,

1.93 Email to Wilinggin Aboriginal Corporation (13 October 2023)

Good afternoon Wilinggin Aboriginal Corporation,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5-year revisions.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 805 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance, and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

Ngujima-Yin & Pyrenees Floating Production Storage and Offloading (FPSO) Facility Operations

Woodside is seeking to understand the nature of the interests that Wiltinggin Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns.
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by Monday, **13 November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700. Please also feel free to forward this email and the attached documents to Wilinggin Aboriginal Corporation Members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Wilinggin Aboriginal Corporation Members, the Wilinggin Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Wilinggin Aboriginal Corporation in any way to participate in these processes.

Kind regards

1.94 Email to Mirning Traditional Lands Aboriginal Corporation (4 October 2023)

Dear [Individual 55]

By way of introduction, I work with Woodside in the company's First Nations relationships team. Woodside is a global energy company headquartered in Perth, with projects and operations off the north west coast of Western Australia, and onshore in the Pilbara at Onslow and Murujuga (Burrup Peninsula).

Further information about Woodside and the company's activities can be found here <https://www.woodside.com/sustainability/consultation-activities>.

I am writing to seek to establish Woodside's relationship with the Mirning People and to ask whether and how the group may like to consult with Woodside about some of the company's offshore activities. I have spoken to your Executive Assistant who kindly recommended I send through this information for your review and feedback. If you have any questions at all, please don't hesitate to reach out as I am more than happy to assist. I am available to meet in person or via Teams, whichever is more suitable to you and your team.

While Woodside's activities are located in the Pilbara region, our modelling can indicate that the 'environment that may be affected' (EMBA) from a highly unlikely unplanned event associated with our offshore activities could, depending on the currents, wind and tide for example, extend to the south of WA. Considering this, we are seeking to establish our relationship with the Mirning People as the basis for consulting about these activities, particularly in relation to the nature of Mirning People interests in the EMBA by some of Woodside's activities, cultural values in the EMBA that you may like to inform Woodside about, any concerns you may have, suggested management measures, and whether there are other people and organisations that you think Woodside should consult with.

The EMBA by our Pyrenees and Ngujima-Yin oil operations, located 45 and 57km north of the Exmouth coast, are two examples of where the EMBA by Woodside's activities extends to the south of WA.

Woodside started operating Pyrenees in 2010, and Ngujima-Yin in 2008, and is planning to submit a five-yearly revision of the Environment Plans (EPs) for these operations to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). I have attached for your review a summary information sheet and a link to the more detailed consultation information sheet, both of which contain information about the EMBA by these operations and inviting consultation and feedback. The EMBA associated with these activities extends to the east of Albany.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 807 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

In the first instance, we are seeking to understand whether the Mirning People would like to consult with Woodside about the EMBA by the Pyrenees and Ngujima-Yin operations, and if you would like to consult, your expectations of Woodside in conducting consultation and how you would like consultation to be conducted. We would also like to know whether there are other individuals or organisations that you think Woodside should consult with about these matters. We are seeking this initial feedback by the **3rd November 2023**. Alternatively, you can provide feedback to NOPSEMA at communications@nopsema.gov.au or by calling **(08) 6188 8700**. If you require any assistance from Woodside to undertake consultation, please let me know. **Woodside would be pleased to support consultations by way of paying the Mirning People's reasonable costs, and providing other support that the group may require.**

I will telephone you next week to introduce myself, discuss these matters, and to answer any initial questions. In the meantime, please feel free to contact me on the details below. I have also provided a link below to the NOPSEMA consultation guidelines that provide important context in relation to these matters.

Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au)

I look forward to talking with you next week and thank you for taking the time to consider this correspondence.

Warm regards,

1.95 Email sent to Wunambal Gaambera Aboriginal Corporation (WGAC) (2 November 2023)

Good afternoon Wunambal Gaambera Aboriginal Corporation,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5-year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 808 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance, and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

Ngujima-Yin & Pyrenees Floating Production Storage and Offloading (FPSO) Facility Operations

Woodside is seeking to understand the nature of the interests that Wunambal Gaambera Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns.
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by Wednesday, **1 November 2023** and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700. Please also feel free to forward this email and the attached documents to Wunambal Gaambera Aboriginal Corporation Members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Wunambal Gaambera Aboriginal Corporation Members, the Wunambal Gaambera Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Wunambal Gaambera Aboriginal Corporation in any way to participate in these processes.

1.96 Email sent to Nyul Nyul PBC Aboriginal Corporation (NNAC) (6 October 2023)

Dear [Individual 56]

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 809 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

I hope this email finds you well.

I and a colleague will be visiting the Dampier Peninsula next week (Tuesday and Wednesday) and would be keen to meet and introduce ourselves if you had time.

The attached Environment plan is for existing operating FPSO's and not for a new project.

Ngujima-Yin commenced operation in 2008 and Pyrenees 2010, however Woodside are required to submit 5 yearly revision plans.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's), we are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.

The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees. The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that Nyul Nyul Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

how the activity could impact your interests and activities and/or your cultural values

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 810 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

your concerns about the proposed activity and what you think we should do about those concerns whether there are any other individuals, groups, or organisations you think we should talk to. If you would like to speak with us, please let us know by 6-November 2023 and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled Consultation on offshore petroleum environment plans – Information for the Community to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to Nyul Nyul Aboriginal Corporation and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Nyul Nyul Aboriginal Corporation members, the Nyul Nyul Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist Nyul Nyul Aboriginal Corporation in any way to participate in these processes.

Regards,

1.97 Email sent to Lombadina Aboriginal Corporation (LAC) (6 October 2023)

Hi [Individual 57]

Thanks for the chat earlier.

As mentioned, I and a colleague will be visiting the Dampier Peninsula next week (Tuesday and Wednesday) and it would be good to pop in and say hi and explain a little in relation to consultation.

The attached Environment plan is for existing operating FPSO's and not for a new project. Ngujima-Yin commenced operation in 2008 and Pyrenees 2010, however Woodside are required to submit 5 yearly revision plans.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's), we are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 811 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.**

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that Lombadina Aboriginal Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 6-November 2023 and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700.

Please also feel free to forward this email and the attached documents to Lombadina Aboriginal Corporation and other people and organisations who you think may be interested as required. Woodside would be happy to speak Lombadina Aboriginal Corporation members, the Lombadina Aboriginal Corporation Board, elders and office holders and other interested parties.

We look forward to hearing from you.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 812 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

As always, please be in contact if you require further information and if Woodside can assist Lombadina Aboriginal Corporation in any way to participate in these processes.

Regards,

1.98 Email sent to to Bardi and Jawi Niimidiman Aboriginal Corporation (BJNAC) (23 November 2023)

Good afternoon [Individual 58]

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5-year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance, and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

Ngujima-Yin & Pyrenees Floating Production Storage and Offloading (FPSO) Facility Operations

Woodside is seeking to understand the nature of the interests that Badi & Jawi Corporation and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out

in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns.
- whether there are any other individuals, groups, or organisations you think we should talk to.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700. Please also feel free to forward this email and the attached documents to Badi & Jawi Aboriginal Corporation Members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with Badi & Jawi Aboriginal Corporation Members, the Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist the Badi & Jawi Aboriginal Corporation in any way to participate in these processes.

Kind regards

1.99 Email sent to Amateur Fishermen's Association of the NT (15 December 2023)

Dear Amateur Fishermen's Association of the NT,
Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 814 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities;	Continuation of activities: • Routine oil production, crude oil offloading and associated activities;

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 815 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	• Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	• Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels	Key vessels include, but are not limited to: • Supply and support vessels

	• Offtake tankers • IMMR support vessels including multi-purpose support vessels.	• Offtake tankers • IMMR support vessels including multi-purpose support vessels.
--	--	--

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **19 January 2024**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,
Woodside Energy Feedback

1.100 Email sent to Northern Territory Department of Infrastructure, Planning and Logistics (DIPL) - Marine Safety; Department of Infrastructure, Tourism and Trade (DITT) - Aquatic Biosecurity; Indian Ocean Territories Regional Development Organisation; Port of Christmas Island; Christmas Island Business Association (15 December 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 818 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 819 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	- Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: - A subsea tie back of two new wells to existing subsea infrastructure; and - A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 820 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **19 January 2024**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,
Woodside Energy Feedback

1.101 Email sent to Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA); Shire of Christmas Island - Fisheries Management Committee (15 December 2023)

Dear Stakeholder,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 822 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

We have identified potential impacts to active commercial fishers and the environment, which are summarised below. We have endeavoured to reduce these risks to an as low as reasonably practicable level.

Fisheries have been identified as being relevant based on fishing licence overlap, assessment of government fishing effort data (including Fishcube and AFMA) from recent years, fishing methods and water depth.

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
------------------	------------------------------	---------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 823 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 824 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels	Key vessels include, but are not limited to: • Supply and support vessels

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 825 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	• Offtake tankers • IMMR support vessels including multi-purpose support vessels.	• Offtake tankers • IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery	<u>Commonwealth fisheries</u> Operational Area: Nil EMBA: North West Slope Trawl Fishery, Northern Prawn Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Christmas Island Line Fishery, Cocos (Keeling) Islands Marine Aquarium Fish Fishery

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **19 January 2024**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,
Woodside Energy Feedback

1.102 Email sent to Northern Territory Seafood Council (NTSC) (15 December 2023)

Dear Northern Territory Seafood Council,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 826 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs.

For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also subscribe to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 828 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010 Routine Operations: Ongoing Estimated End of Field Life: 2035.	Production Commenced: 2008 Routine Operations: Ongoing Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals • Umbilical Termination Assembly (UTA) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 829 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		- Subsea support structures. Potential new infrastructure that could be installed in the next five years: - Two new wells - One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: - Supply and support vessels - Offtake tankers - IMMR support vessels including multi-purpose support vessels.
Relevant fisheries	Northern Territory Fisheries Operational Area: Nil EMBA: Nil	Northern Territory Fisheries Operational Area: Nil EMBA: Northern Territory Demersal Managed Fishery, Northern Territory Offshore Net and Line Managed Fishery, Northern Territory Spanish Mackerel Managed Fishery, Northern Territory Aquarium Managed Fishery, Northern Territory Aquaculture Managed Fishery, Northern Territory Mollusc Managed Fishery and Northern Territory Mud Crab Managed Fishery management areas overlap the EMBA but have not been active in the EMBA in the past 5 years.

Feedback

If you have feedback specific to the proposed activities described under the operational EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **19 January 2024**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 830 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,
Woodside Energy Feedback

1.103 Email sent to Port of Cocos (Keeling) Island (18 December 2023)

Dear [Individual 59], on behalf of Port of Cocos (Keeling) Island,

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 831 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. These are also available on our [website](#). You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations Environment Plans

Environment Plan	Pyrenees Facility Operations	Ngujima-Yin Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place.	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and • Disconnection and sail-away of the FPSOs with the turret mooring and subsea infrastructure remaining in place. Future development activities are being considered for the Ngujima-Yin FPSO including: • A subsea tie back of two new wells to existing subsea infrastructure; and • A new flowline to provide fuel gas from a neighboring field to the facility. The revised Operations EP will account for production from the additional two proposed wells via a subsea tieback and the

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 832 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

		operation of a new fuel gas flowline. The drilling, installation and commissioning associated with each of the proposed activities will be subject to a future separate EP.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.	Activities will occur within Production Licenses WA-28-L and WA-59-L and Pipeline License WA-28-PL.
Location	~ 45 km north of Exmouth.	~ 57 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.	~ 340 to 850 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.	Production Commenced: 2008. Routine Operations: Ongoing. Estimated End of Field Life: 2028.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.	The location of the Ngujima-Yin FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone). For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 6 flexible risers with buoyancy modules • 28 Xmas trees/wells • 4 Manifolds • Power and Control umbilicals

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 833 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	• Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.	• Umbilical Termination Assemblies (UTAs) • Flexible and Rigid Flowlines and Jumpers • Multi-Phase Pumps • Subsea pig launch and receiver facility • Subsea support structures. Potential new infrastructure that could be installed in the next five years: • Two new wells • One new flowline supplying fuel gas from either Pyrenees or Macedon.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities described under the proposed EPs, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **22 January 2024**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Kind regards,
Woodside Energy Feedback

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 834 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

1.104 Email sent to Yamatji Marlpa Aboriginal Corporation (YMAC) (23 October 2023)

Hi there [Individual 21] and [Individual 22]

I hope you are both well.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's). Both FPSO's, Ngujima-Yin and Pyrenees have been in operation since 2008 and 2010 respectively and the EPs being submitted are the industry required 5 year revisions.

We are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing from the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began** in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

The summary information sheet explaining the activities we plan to undertake can be found [here](#), and detailed consultation information sheets can be found on the external Woodside website <https://www.woodside.com/sustainability/consultation-activities>

Woodside is seeking to understand the nature of the interests that NTGAC and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 835 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.
-

If you would like to speak with us, please let us know by **20 November 2023** please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for

Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700. Please also feel free to forward this email and the attached documents to NTGAC members and other people and organisations who you think may be interested as required. Woodside would be happy to speak with NTGAC members, the NTGAC Board, Elders and office holders and any other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist NTGAC in any way to participate in these processes.

Many thanks

1.105 Email sent to Yawoorroong Miriuwung Gajerrong Yirrgeb Noong Dawang (MG Corp) (13 October 2023)

Dear [Individual 60]

Hope all is well [Individual 60] and once again, thank you for allowing [Individual 44] and I to meet 18-September with yourself and directors.

The attached Environment plan is for existing operating FPSO's and not for a new project. Ngujima-Yin commenced operation in 2008 and Pyrenees 2010, however Woodside are required to submit 5 yearly revision plans.

Woodside is planning to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees environment plans (EP's), we are writing to you to ask if you are aware of any people, who in accordance with Indigenous tradition, may have spiritual and cultural connections to the environment that may be affected by the activity that have not yet been afforded the opportunity to provide information that may inform the management of the activity.

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of **Exmouth, Western Australia**, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of **Exmouth, Western Australia**, within Production Licences WA-42-L and WA-43-L.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 836 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Overview

Both EPs are being revised and resubmitted for the continued production of oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin FPSO facilities. **Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.**

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

In preparation for this work, Woodside has undertaken an assessment to identify potential impacts and risks to the marine environment arising from both planned activities and unplanned events. Mitigation and management measures have been developed for each of the risks identified and will be outlined in the EP.

I have attached summary information sheets that explain the activities we plan to undertake, and detailed consultation information sheets can be found at the links below:

https://www.woodside.com/docs/default-source/current-consultation-activities/pyrenees-and-ngujimaef4471d4-d7f8-45cd-ab3b-df83bf2fde53.pdf?sfvrsn=319bbb00_5

Woodside is seeking to understand the nature of the interests that MG Corp and its members may have in the 'environment that may be affected' (EMBA) by this activity. The EMBA is the total area over which unplanned events could have environmental impacts. The EMBA is set out in the attached Summary Information Sheets and consultation information sheets. In particular, we are interested in hearing:

- how the activity could impact your interests and activities and/or your cultural values
- your concerns about the proposed activity and what you think we should do about those concerns
- whether there are any other individuals, groups, or organisations you think we should talk to.

If you would like to speak with us, please let us know by 6-November 2023 and please also advise of your preferred method of consultation. If there is any support or specific information that you require as part of our engagement, please let me know as soon as possible.

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation. Please click on the italicised text above to access this document.

Please provide feedback directly to me on the details below, to Feedback@woodside.com.au, by calling 1800 442 977, or directly to the Australian Government's National Offshore Petroleum Safety and Environmental Management Authority to communications@nopsema.gov.au or (08) 6188 8700. Please also feel free to forward this email and the attached documents to MG Corp and other people and organisations who you think may be interested as required. Woodside would be happy to speak with MG Corp members, the MG Corp Board, elders and office holders and other interested parties.

We look forward to hearing from you.

As always, please be in contact if you require further information and if Woodside can assist MG Corp in any way to participate in these processes.

1.106 Email sent to Northern Land Council (NLC) – 17 February 2025

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 837 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Hi [Individual 64]

I have arrived in Darwin, and I look forward to finally catching up sometime over the next four days and I will be able to explain the environment plans in more depth when we meet.

We provided the environment plan information to NLC in the past and although the environment plan included both Ngujima-Yin and Pyrenees Facility projects, we only discussed Ngujima-Yin.

Pyrenees Facility commenced production in 2010, and this Environment plan is for a 5-year revision.

We are contacting you as the delegated representative for the Northern Land Council (NLC).

Woodside would like to consult with NLC regarding the Pyrenees Facility Operations (the activity).

Consultation for this activity closes on 19 March 2025. Your feedback, opinions and comments provided by this date will be reflected in the Environment Plan and considered by NOPSEMA.

The purpose of this email is to:

- inform you about our plans for the activity
- invite you to submit feedback for the activity
- provide an opportunity to discuss the activity
- discuss further ways to consult and engage for the activity.

Overview of the activity

The attached Summary Consultation Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also attached a Consultation Information Sheet with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

1. How the activity could impact your cultural values, interests, and activities
2. Protection of the environment and its relationship to your cultural values
3. Your concerns about the proposed activity
4. Other elements we should consider in the Environment Plan
5. Any other individuals, groups, or organisations we should talk to about this activity.

We look forward to meeting with you in February and welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so. Information can be sent to feedback@woodside.com, via the feedback form on our website, call us on 1800 442 977 or directly to me.

Further information about NOPSEMA

Feedback can also be submitted directly to NOPSEMA by phoning (08) 6188 8700 or via email communications@nopsema.gov.au.

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs: · Brochure: Consultation on offshore petroleum environment plans brochure.pdf (nopsema.gov.au) · Guideline: Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au) · Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 838 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of NLC, Traditional Owners and other people and organisations who may be interested.

I look forward to your response and please feel free to call and send through guidance on next steps.

Kind regards,

[Attachments: Consultation Information Sheet, Summary Consultation Information Sheet]

1.107 Email sent to Environs Kimberley (17 February 2025)

Dear Environs Kimberley,

Woodside is developing the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees FPSO and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

In accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations), the EP is being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSO.

Woodside plans to continue producing crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur.

The EMBA models the merged area of many possible paths that a hydrocarbon release could travel depending on factors including the weather and ocean conditions at the time of the release. This means in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 839 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Pyrenees Facility Operations Environment Plan

Environment Plan	Pyrenees Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and • Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.
Location	~ 45 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 840 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.
----------------	--

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **19 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

NOPSEMA has published the brochure [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

1.108 Email sent to Beagle No 1 and Longreach Capital (17 February 2025)

Woodside is developing the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees FPSO and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

In accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations), the EP is being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSO.

Woodside plans to continue producing crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 841 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur.

The EMBA models the merged area of many possible paths that a hydrocarbon release could travel depending on factors including the weather and ocean conditions at the time of the release. This means in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Pyrenees Facility Operations Environment Plan

Environment Plan	Pyrenees Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and • Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.
Location	~ 45 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 842 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **19 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

NOPSEMA has published the brochure [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,

Woodside Energy Feedback

1.109 Email sent to InCapture; SK Earthon; Mitsui E&P Australia (MEPAU); Energy Resources; DeepC Store; H2EX Ltd; Melbana Energy Limited (18 February 2025)

Dear Titleholder,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 843 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside is developing the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees FPSO and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

In accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations), the EP is being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSO.

Woodside plans to continue producing crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur.

The EMBA models the merged area of many possible paths that a hydrocarbon release could travel depending on factors including the weather and ocean conditions at the time of the release. This means in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Pyrenees Facility Operations Environment Plan

Environment Plan	Pyrenees Facility Operations
Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and • Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.
Location	~ 45 km north of Exmouth.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 844 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Approx. Water Depth (m)	~ 180 to 215 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **20 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

NOPSEMA has published the brochure [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 845 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

1.110 Email sent to Aquaculture Council of Western Australia (ACWA) (19 February 2025)

Woodside is developing the five-year revision of the Pyrenees Facility Operations Environment Plan (EP). The Pyrenees FPSO and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

In accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations), the EP is being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSO.

Woodside plans to continue producing crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue are:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur.

The EMBA models the merged area of many possible paths that a hydrocarbon release could travel depending on factors including the weather and ocean conditions at the time of the release. This means in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected.

A **Consultation Information Sheet** is attached, which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures. You can also choose to receive updates on our consultation activities by subscribing [here](#).

Activity: Pyrenees Facility Operations Environment Plan

Environment Plan	Pyrenees Facility Operations
------------------	------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 846 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Summary	Continuation of activities: • Routine oil production, crude oil offloading and associated activities; • Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and • Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.
Permit Area	Activities will occur within Production Licenses WA-42-L and WA-43-L.
Location	~ 45 km north of Exmouth.
Approx. Water Depth (m)	~ 180 to 215 m.
Schedule	Production Commenced: 2010. Routine Operations: Ongoing. Estimated End of Field Life: 2035.
Exclusionary/ Cautionary Zone	The location of the Pyrenees FPSO and associated subsea infrastructure is marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. Vessels may not enter the exclusion zone without permission from the FPSO. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around the FPSO.
Infrastructure	Key infrastructure includes, but is not limited to: • 1 FPSO • 1 Disconnectable Turret Mooring system, incorporating the risers • 11 flexible risers and 2 umbilical risers distributed across 4 Midwater Arches and 1 flexible riser with buoyancy modules • 27 Xmas trees/wells • 10 Manifolds • Power and Control umbilicals • Umbilical Termination Assemblies (UTAs) • Flexible Flowlines and Jumpers • Subsea support structures.
Vessels	Key vessels include, but are not limited to: • Supply and support vessels • Offtake tankers • IMMR support vessels including multi-purpose support vessels.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **21 March 2025**.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 847 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

NOPSEMA has published the brochure [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,

Woodside Energy Feedback

2. Follow-up Consultation

2.1 Email sent to Australian Border Force (ABF), Department of Foreign Affairs and Trade (DFAT), Ningaloo Coast World Heritage Advisory Committee (NCWHAC), Department of Biodiversity, Conservation and Attractions (DBCA), Department of Industry, Science and Resources (DISR), Department of Planning, Lands and Heritage (DPLH), Department of Defence (DoD), Department of Mines, Industry Regulation and Safety (DMIRS), Australian Energy Producers (AEP – formerly Australian Petroleum Production and Exploration Association), University of Western Australia (UWA), Western Australian Marine Science Institution (WAMSI), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australian Hydrographic Office (AHO), Chevron, Western Gas, Exxon Mobil Australia Resources Company, Shell Australia, Kyushu Electric Wheatstone, Eni Australia, FINDER Energy No 16, Jadestone, KUFPEC, Vermilion Oil & Gas, Coastal Oil and Gas, Bounty Oil and Gas, OMV Australia / Sapura OMV Upstream, KATO Energy / KATO Corowa / KATO NWS / KATO Amulet, INPEX Alpha, JX Nippon O&G Exploration (Australia), 3D Oil Ltd, AGI Tubridgi P/L, Good Earth Energy Corporation, Pathfinder Energy P/L, Pilot Energy Ltd, Petro China International Investment, Triangle Energy, VRX Silica Ltd, Beach Energy, Origin Energy Browse, Strike Energy, Shire of Carnarvon, Exmouth Recreational Marine Users, Karratha Recreational Marine Users, Christmas Island Recreational Marine Users, Recfishwest, Marine Tourism Association, WA Game Fishing Association, Australian Maritime Safety Authority – Marine Pollution, Onslow Chamber of Commerce and Industry, Shire of Exmouth, City of Karratha, Town of Port Hedland, Broome Chamber of Commerce and Industry, Carnarvon Chamber of Commerce and Industry, Shire of Derby West Kimberley, Exmouth Community Liaison Group, Karratha Community Liaison Group, Port Hedland Chamber of Commerce and Industry, Shire of Wyndham/East Kimberley, Shire of Shark Bay, City of Greater Geraldton, Shire of Chapman Valley, Shire of Dandaragan, Shire of Gingin, Shire of Northampton, Shire of Christmas Island, Pilbara Ports, Kimberley Ports Authority, Mid West Ports Authority, Derby Chamber of Commerce and Industry, Mid West Chamber of

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 848 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Commerce and Industry, East Kimberley Chamber of Commerce and Industry, Director of National Parks (DNP), Department of Primary Industry and Regional Development (DPIRD), Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries, NT Fisheries, Northern Territory Department of Industry, Tourism and Trade (DITT) – Mining and Energy, Northern Territory Department of Environment, Parks and Water Security (DEPWS), Northern Territory Environment Protection Authority (NTEPA) (16 October 2023)

Pearl Producers Association, Skye Napoleon; Petroleum; Resources, New Zealand Oil and Gas (NZOG), Karratha and Districts Chamber of Commerce and Industry, Exmouth Chamber of Commerce and Industry, 350 Australia (350A), Greenpeace Australia Pacific (GAP), Australian Conservation Foundation (ACF), Australian Marine Conservation Society (AMCS), Conservation Council of Western Australia (CCWA), Sea Shepherd Australia (SSA), Protect Ningaloo, Cape Conservation Group (17 October 2023)

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#).

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by 27 October 2023.

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Feedback

2.2 Email sent to City of Albany, City of Bunbury, City of Busselton, Town of Cambridge, Shire of Capel, Shire of Carnamah, City of Cockburn, Shire of Cocos (Keeling) Islands, Shire of Coorow, Shire of Denmark, Town of Cottesloe, Shire of Dundas, Shire of Esperance, City of Fremantle, Shire of Harvey, Shire of Irwin, Shire of Jerramungup, City of Joondalup, City of Mandurah, Shire of Kwinana, Shire of Manjimup, Town of Mosman Park, Shire of Nannup, City of Nedlands, City of Rockingham, City of Stirling, City of Wanneroo, Shire of Waroona, Shire of Ravensthorpe, Shire of Augusta Margaret River, Margaret River Chamber of Commerce and Industry, Southern Ports (Albany), Southern Ports (Bunbury), Fremantle Port Authority, Jurien Bay Chamber of Commerce and Industry, Lancelin Chamber of Commerce and Industry, Albany Chamber of Commerce and Industry, Bunbury Geographe Chamber of Commerce and Industry, Busselton Chamber of Commerce and Industry, Dunsborough Yallingup Chamber of Commerce

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 849 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

and Industry, Capel Chamber of Commerce and Industry, Melville Cockburn Chamber of Commerce and Industry, Denmark Chamber of Commerce and Industry, Esperance Chamber of Commerce and Industry, Fremantle Chamber of Commerce and Industry, Peel Chamber of Commerce and Industry, Rockingham Kwinana Chamber of Commerce and Industry, Manjimup Chamber of Commerce and Industry, Nannup Chamber of Commerce and Industry, Augusta Chamber of Commerce and Industry (18 October 2023)

Dear Stakeholder,

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.

The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our website. Also in the email below are some questions and answers explaining why we are consulting you for these EPs.

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by 27 October 2023.

Please let us know if your feedback for this activity is sensitive and we will make this known to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Feedback

2.3 Email sent to Commonwealth Fisheries Association (CFA), North West Slope and Trawl Fishery, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery, Northern Prawn Fishery, Christmas Island Line Fishery (18 October 2023)

Dear Stakeholder,

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 850 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#).

Should you require notification prior to, and on completion of, the proposed activities, or have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Please let us know if your feedback for this activity is sensitive and we will make this known to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Feedback

2.4 Letter sent to Northern Territory Aquarium Fish/Display Fishery, Northern Territory Spanish Mackerel Fishery, Northern Territory Offshore Net & Line Fishery, Northern Territory Demersal Fishery, Northern Territory Mud Crab Fishery, Northern Territory Mollusc Fishery, Northern Territory Aquaculture Fishery (16 October 2023)U

Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au



Woodside Energy Group Ltd

ACN 004 898 962

Mia Yellagonga
11 Mount Street
Perth WA 6000
Australia

T: +61 8 9348 4000

www.woodside.com

16 October 2023

Dear Stakeholder,

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

Woodside previously consulted you (correspondence dated 22 September 2023) regarding its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs. For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull. The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 852 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

Woodside is writing to you to follow up on feedback with respect to the proposed activities. You were previously sent a Consultation Information Sheet which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures.

The Consultation Information Sheet is available on our website www.woodside.com and can be accessed through the QR code below:



The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Should you require notification prior to, and on completion of, the proposed activities, or have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Regards,

Woodside Feedback



Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f t in y o

2.5 Letter sent to Gascoyne Recreational Marine Users, Pilbara/Kimberley Recreational Marine Users, South Coast Recreational Marine Users, West Coast Recreational Marine Users (16 October 2023)

Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au

16 October 2023

Dear Stakeholder,

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

Woodside previously consulted you (correspondence dated 22 September 2023) regarding its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs. For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull. The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean



Woodside Energy Group Ltd

ACN 004 898 962

Mia Yellagonga

11 Mount Street

Perth WA 6000

Australia

T: +61 8 9348 4000

www.woodside.com

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 854 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

Woodside is writing to you to follow up on feedback with respect to the proposed activities. You were previously sent a Consultation Information Sheet which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures.

The Consultation Information Sheet is available on our website www.woodside.com and can be accessed through the QR code below:



The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Regards,

Woodside Feedback



Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f t in v @

2.6 Letter sent to Allasso Energy Pty Ltd, AWE Perth Pty Ltd, PBE Operations Pty Ltd (16 October 2023)

Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au

16 October 2023

Dear Titleholder,

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

Woodside previously consulted you (correspondence dated 22 September 2023) regarding its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

Woodside is writing to you to follow up on feedback with respect to the proposed activities. You were previously sent a Consultation Information Sheet which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures.



Woodside Energy Group Ltd

ACN 004 898 962

Mia Yellagonga

11 Mount Street

Perth WA 6000

Australia

T: +61 8 9348 4000

www.woodside.com

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 856 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The Consultation Information Sheet is available on our website www.woodside.com and can be accessed through the QR code below:



The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Regards,

Woodside Feedback



Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f t in y u

2.7 Email sent to Shire of East Pilbara (24 October 2023)

Dear Stakeholder,

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.

The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#). Also in the email below are some questions and answers explaining why we are consulting you for these EPs.

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by 01 November 2023.

Please let us know if your feedback for this activity is sensitive and we will make this known to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Feedback

2.8 Letter sent to Christmas Island Recreational Marine User (24 October 2023)



Woodside Energy Group Ltd

ACN 004 898 962

Mia Yellagonga

11 Mount Street

Perth WA 6000

Australia

T: +61 8 9348 4000

www.woodside.com

Please direct all responses/queries to:

Woodside Feedback

T: 1800 442 977

E: Feedback@woodside.com.au

24 October 2023

Dear Stakeholder,

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

Woodside previously consulted you (correspondence dated 22 September 2023) regarding its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs. For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull. The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 859 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

Woodside is writing to you to follow up on feedback with respect to the proposed activities. You were previously sent a Consultation Information Sheet which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures.

The Consultation Information Sheet is available on our website www.woodside.com and can be accessed through the QR code below:



The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **02 November 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Regards,

Woodside Feedback



Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f t in v @

2.9 Letter sent to Cocos (Keeling) Islands Marine Aquarium Fishery (24 October 2023)

Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au

24 October 2023

Dear Stakeholder,

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

Woodside previously consulted you (correspondence dated 22 September 2023) regarding its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs. For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull. The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean



Woodside Energy Group Ltd

ACN 004 898 962

Mia Yellagonga
11 Mount Street
Perth WA 6000
Australia

T: +61 8 9348 4000

www.woodside.com

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 861 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

Woodside is writing to you to follow up on feedback with respect to the proposed activities. You were previously sent a Consultation Information Sheet which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures.

The Consultation Information Sheet is available on our website www.woodside.com and can be accessed through the QR code below:



The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Should you require notification prior to, and on completion of, the proposed activities, or have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **02 November 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Regards,

Woodside Feedback



Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f t in d i

2.10 National Energy Resources Australia (NERA) (30 October 2023)

Dear Stakeholder,

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#).

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by 06 November 2023.

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Feedback

2.11 Email sent to Tuna Australia (31 October 2023)

Dear [Individual 61] and [Individual 62]

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#).

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by 07 November 2023.

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Woodside has noted your response regarding consultation processes in respect to an activity update for the TPA03 Well Intervention Environment Plan.

In relation to the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations EPs, AFMA data shows there are no active tuna fisheries within the Operational Areas. The Western Tuna and Billfish Fishery is active within the EMBA. As per AFMA's expectations, we have consulted individual operators in this fishery as well as Tuna Australia and the Commonwealth Fisheries Association as the relevant industry associations and representative bodies.

Kind regards,
Woodside Feedback

2.12 Email sent to Australian Southern Bluefin Tuna Industry Association (ASBTIA) (1 November 2023)

Dear Stakeholder,

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#).

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by 11 November 2023.

Please let us know if your feedback for this activity is sensitive and we will make this known to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Feedback

2.13 Email to Northern Prawn Fishery Industry (2 November 2023)

Dear Northern Prawn Fishery Industry,

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 864 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#).

Should you require notification prior to, and on completion of, the proposed activities, or have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **17 November 2023**.

Please let us know if your feedback for this activity is sensitive and we will make this known to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Feedback

2.14 Email to Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (3 November 2023)

Dear DAFF – Biosecurity,

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#).

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **15 November 2023**.

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Feedback

2.15 Email sent to Western Rock Lobster Council (13 November 2023)

Dear [Individual 14],

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 865 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#).

Should you require notification prior to, and on completion of, the proposed activities, or have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **20 November 2023**.

Please let us know if your feedback for this activity is sensitive and we will make this known to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Feedback

2.16 Email sent to Director of National Parks (DNP) and Ningaloo Coast World Heritage Advisory Committee (NCWHAC) (9 November 2023)

Woodside is sending this email by way of reminder that the consultation period is closing ahead of the planned submission of five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#).

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **16 November 2023**.

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Feedback

2.17 Letter sent to Christmas Island Line Fishery licence holder (16 October 2023)

Please direct all responses/queries to:
Woodside Feedback
T: 1800 442 977
E: Feedback@woodside.com.au

16 October 2023

Dear Stakeholder,

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

Woodside previously consulted you (correspondence dated 22 September 2023) regarding its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Overview

Both EPs are being revised and resubmitted for the continued production of crude oil via existing subsea infrastructure to the FPSOs, in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (Environment Regulations).

Woodside plans to continue producing crude oil at the Ngujima-Yin and Pyrenees facilities. Operations began in 2008 for Ngujima-Yin and 2010 for Pyrenees.

The activities that will continue at both FPSOs are:

- Routine oil production, including crude oil offloading and associated activities;
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSOs and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Exclusionary / Cautionary Zones

The locations of the Pyrenees FPSO, Ngujima-Yin FPSO and associated subsea infrastructure, are marked on nautical charts. Nautical charts also include a 500 m radius petroleum safety zone (exclusion zone) around the FPSOs. For the Pyrenees FPSO, this is measured in addition to the FPSO length (260 m), resulting in a 760 m exclusion zone. For the Ngujima-Yin FPSO this radius is measured from the riser turret mooring at the bow of the vessel. Vessels may not enter the exclusion zones without permission from the FPSOs. In addition, a 2.5 nm (4.6 km) radius Cautionary Zone is also marked on nautical charts around both FPSOs.

Environment that May Be Affected (EMBA)

Following recent changes to Commonwealth EP consultation requirements, Woodside is now consulting persons or organisations who are located within the environment that may be affected (EMBA) by a proposed petroleum activity. The EMBA is the largest spatial extent where unplanned events could potentially have an environmental consequence.

For these EPs, broadest extent of the EMBA has been determined by modelling the highly unlikely event of a hydrocarbon release from activities within the scope the EP 100-200 times (to account for the variation in environmental conditions throughout the year). The worst-case credible hydrocarbon spill scenario for these EPs is a release of crude oil to the environment either as a result of a loss of well control, or a vessel collision with the FPSO with enough force to breach the hull. The EMBA represents the merged area of many possible paths a highly unlikely hydrocarbon release could travel depending on the weather and ocean



Woodside Energy Group Ltd

ACN 004 898 962

Mia Yellagonga
11 Mount Street
Perth WA 6000
Australia

T: +61 8 9348 4000

www.woodside.com

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 867 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

conditions at the time of the release and is created by overlaying the hundreds of individual computer simulated hypothetical spills.

Woodside is writing to you to follow up on feedback with respect to the proposed activities. You were previously sent a Consultation Information Sheet which provides additional background on the proposed activities, including summaries of potential key impacts and risks, and associated management measures.

The Consultation Information Sheet is available on our website www.woodside.com and can be accessed through the QR code below:



The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) has published a brochure entitled [Consultation on offshore petroleum environment plans – Information for the Community](#) to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Should you require notification prior to, and on completion of, the proposed activities, or have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **27 October 2023**.

Your feedback and our response will be included in our EPs, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if your feedback for this activity is sensitive and we will make this known to NOPSEMA upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Regards,

Woodside Feedback



Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000
Australia

T: 1800 442 977
E: feedback@woodside.com.au
www.woodside.com
f t in y o

2.18 Email sent to [Individual 1] MLA, Shark Bay Aviation, Mac Attack Fishing Charters, Shark Bay Charters, Shark Bay Coastal Tours, Naturetime Tours, Perfect Nature Cruises, Shark Bay Community Resource Centre, Wula Gura Nyinda Eco Cultural Tours, Ocean Park, Tidal Moon, RAC Monkey Mia, Dirk Hartog Island; Shire of Shark Bay; Department of Biodiversity, Conservation and Attractions Shark Bay office (15 December 2023)

Dear Stakeholder,

Woodside previously consulted you regarding its plans to submit:

1. Five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans:
 - The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
 - The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L;
2. The Scarborough Offshore Facility and Trunkline Operations Environment Plan, which involves the installation of a Floating Production Unit (FPU) and complete subsequent hook-up and commissioning activities, prior to start-up and operations within Production Licences WA-61-L and WA-62-L. Gas from the FPU will be transferred through the gas export trunkline (the Trunkline - Pipeline Licence WA-32-PL) to the Pluto LNG Plant for further processing.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheets which are available on our website [here](#) (Ngujima-Yin FPSO Facility and Pyrenees Facility Operations) and [here](#) (Scarborough Offshore Facility and Trunkline Operations).

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **22 December 2023**.

Please let us know if your feedback for this activity is sensitive and we will make this known to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Energy Feedback

2.19 Email sent to Amateur Fishermen's Association of the Northern Territory; Northern Territory Seafood Council; Shire of Christmas Island's Fisheries Management Committee; Northern Territory Department of Infrastructure, Planning and Logistics (DIPL) - Marine Safety;; Department of Infrastructure,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 869 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

**Tourism and Trade (DITT) - Aquatic Biosecurity); Indian Ocean Territories
Regional Development Organisation; Port of Christmas Island; Christmas Island
Business Association; Department of Infrastructure, Regional Development,
Transport, Communications and the Arts (DITRDCA) (9 January 2024)**

Dear

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#).

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **19 January 2024**.

Please let us know if your feedback for this activity is sensitive and we will make this known to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,
Woodside Energy Feedback

2.20 Email sent to Port of Cocos (Keeling) Island (12 January 2024)

Dear [Individual 59], on behalf of Port of Cocos (Keeling) Islands

Woodside previously consulted you on its plans to submit five-year revisions of the Ngujima-Yin Floating Production Storage and Offloading (FPSO) Facility Operations and Pyrenees Facility Operations Environment Plans (EPs):

- The Ngujima-Yin FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 57 km north of Exmouth, Western Australia, within Production Licences WA-28-L and WA-59-L, and pipeline licence WA-28-PL.
- The Pyrenees FPSO and associated subsea infrastructure is located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Information on the proposed activities is provided in the email below and in the Consultation Information Sheet which is available on our [website](#).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 870 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

If you have feedback specific to the proposed activities, we would welcome your feedback at Feedback@woodside.com.au or 1800 442 977 by **22 January 2024**.

Please let us know if your feedback for this activity is sensitive and we will make this known to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) upon submission of the EPs, in order for this information to remain confidential to NOPSEMA.

Kind regards,

2.21 Email sent to Longreach Capital; Beagle No 1; Environs Kimberley; Aquaculture Council of Western Australia (ACWA) (10 March 2025)

Woodside previously consulted you on its plans to submit the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L. Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

Additional information on the EP is provided in the email below and in the Consultation Information Sheet, which is available on Woodside's [website](#).

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at feedback@woodside.com, via phone call at 1800 442 977 or via the feedback form on our [website](#) by **19 March 2025**.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the EP made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

2.22 Email sent to SK Earthon; Mitsui E&P Australia (MEPAU); Energy Resources; DeepC Store; H2EX Ltd; Melbana Energy Limited (10 March 2025)

Woodside previously consulted you on its plans to submit the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L. Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 872 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Additional information on the EP is provided in the email below and in the Consultation Information Sheet, which is available on Woodside's [website](#).

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at feedback@woodside.com, via phone call at 1800 442 977 or via the feedback form on our [website](#) by **20 March 2025**.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the EP made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

3. CONSULTATION UPDATE (FEBRUARY 2025)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 873 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

3.1 Updated Consultation Information Sheet

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 874 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.



Pyrenees Facility Operations Environment Plan

Carnarvon Basin, North-West Australia

Activity overview

Woodside is developing the five-year revision of the Pyrenees Facility Operations Environment Plan which covers:

- Continued operation of the Pyrenees Facility, including:
 - Routine oil production, crude oil offloading and associated activities.
 - Routine inspection, monitoring, maintenance and repair (IMMR) of the floating production, storage and offloading (FPSO) vessel and associated subsea infrastructure.
 - Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Location

- In Commonwealth waters about 45 km north of Exmouth, Western Australia.
- A map showing the location of the activity is shown in **Figure 2**.

Water depth

- Approximately 180 m to 215 m.

Timing

- Production commenced 2010.
- Estimated end of field life is anticipated for 2035.

Duration

- Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the facility is required to sail off-station).
- IMMR activities take place as required.

Joint Venture

- Operator – Woodside Energy Ltd.
- Joint Venture – Santos WA PVG Pty Ltd, INPEX Alpha Ltd.

We want to hear from you

We want relevant persons whose functions, interests or activities may be affected by the proposed activity to have the opportunity to provide feedback.

Woodside must consult relevant persons when developing an Environment Plan to confirm current measures or identify additional measures, if any, which could lessen or avoid potential adverse effects of the proposed activity on the environment.

Woodside aims to ensure the proposed activity is consistent with the principles of ecologically sustainable development, by which the environmental impacts and risks of the activity are reduced to as low as reasonably practicable (ALARP) and to an acceptable level.

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by the activities under this Environment Plan, we want to hear from you by **19 March 2025**.

feedback@woodside.com
Toll free: 1800 442 977
woodside.com

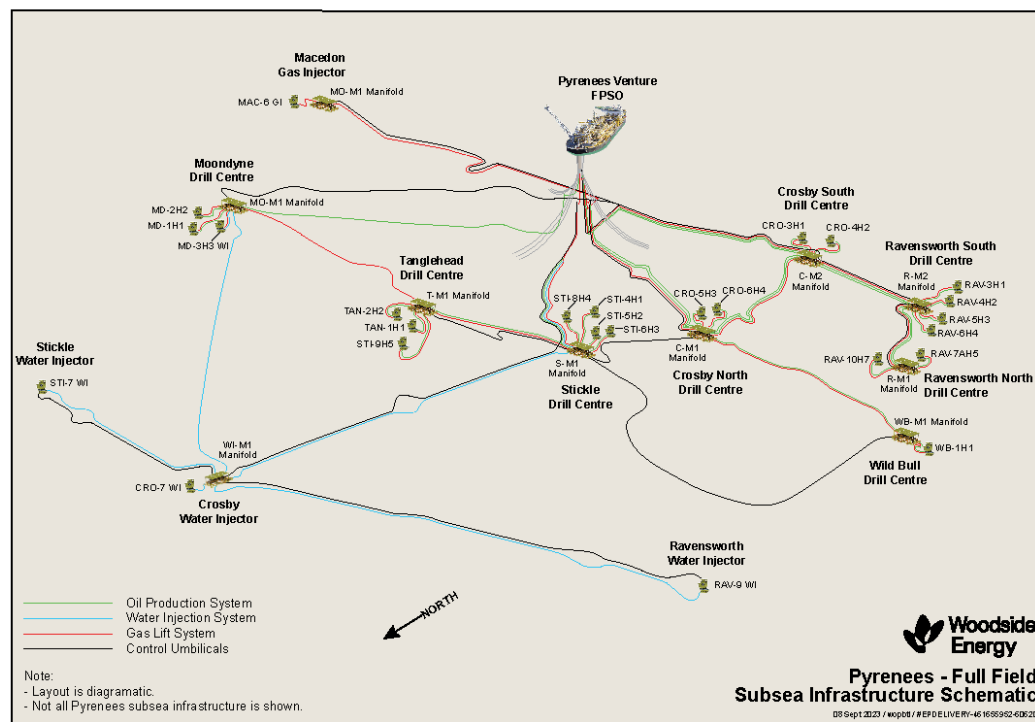
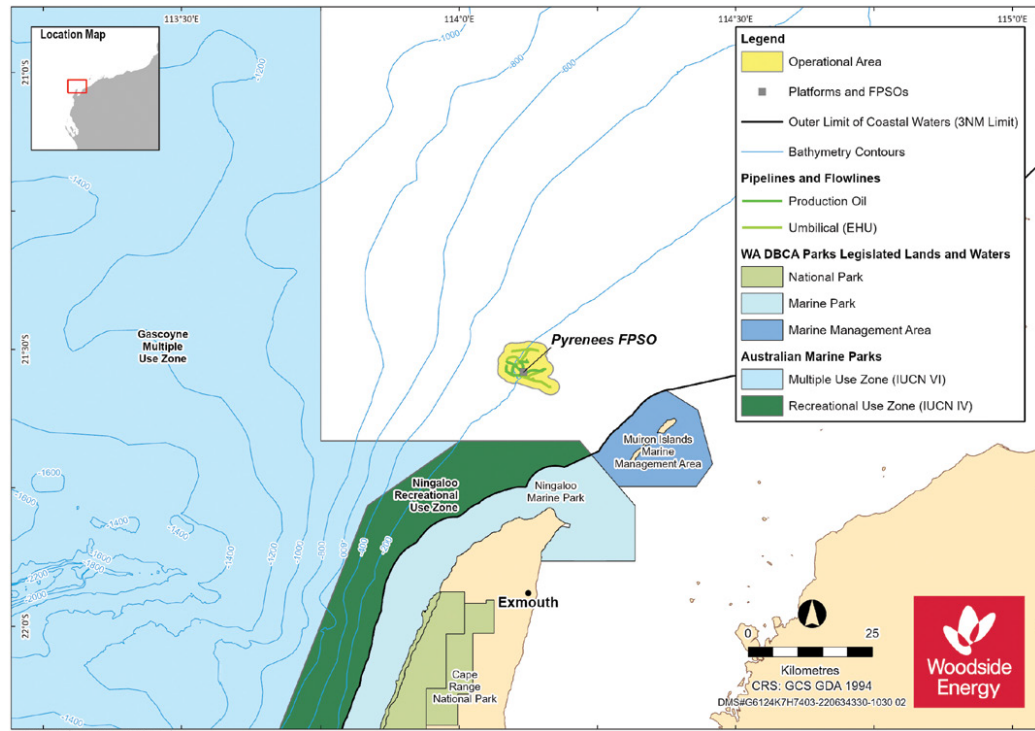
A summary of the activity and location is found in **Table 1** and **2**.



Figure 1: Pyrenees FPSO.

Woodside Energy recognises Aboriginal and Torres Strait Islander peoples as Australia's First Peoples. We acknowledge their connection to land, waters and the environment and pay our respects to ancestors and Elders, past and present. We extend this recognition and respect to First Nations peoples and communities around the world.

Activity Location



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 1 – Activity and Location Summary

Pyrenees Facility Operations Environment Plan	
Activity details	- Crude oil production and offloading. - Routine and non-routine operations of the FPSO and associated subsea infrastructure. - Periodic subsea inspection, monitoring, maintenance and repair (IMMR) activities. - Produced water overboarding and reinjection. - Reinjection of gas into the Macedon formation via the Macedon-6 well. - The use of support vessels and helicopter operations. - Disconnection and sail-away of the FPSO.
Titles	Production Licence Areas: WA-42-L and WA-43-L.
Infrastructure	Key infrastructure includes, but is not limited to: 1 Disconnectable Turret Mooring system, incorporating the risers. 11 flexible risers and 2 umbilical risers distributed across 4 midwater arches and 1 flexible riser with buoyancy modules. 27 Xmas trees/wells. 10 Manifolds. - Power and Control umbilicals. - Umbilical Termination Assembly (UTA). - Flexible Flowlines and Jumpers. - Subsea support structures.
Vessels	Key vessels include, but are not limited to: - Supply and support vessels. - Oil tanker. - IMMR support vessels including multi-purpose support vessels and dive support vessels.
Operational area and exclusion zones	Operational Area comprises: - Pyrenees FPSO and an area extending out to 1500 m to allow for offtake activities. - Pyrenees subsea infrastructure, including wells, flowlines and associated infrastructure, and an area within 1500 m around the infrastructure. Exclusion Zones: - A petroleum safety zone, comprising the length of the FPSO which is 260 m plus a 500 m safety zone, which extends to a distance of 760 m radius from the internal Turret of the Pyrenees FPSO.
Communication with mariners	The location of the Pyrenees FPSO as well as associated subsea infrastructure is marked on nautical charts. Nautical charts also include the 500 m radius petroleum safety zone (exclusion zone). Vessels are not permitted within the exclusion zone without permission. In addition, a 2.5 nm (4.6 km) radius cautionary zone is also marked on nautical charts around the FPSO.
Distance to nearest marine park/nature reserve	14 km from the northern boundary of the Commonwealth Ningaloo Marine Park.



Table 2 – Approximate locations of key infrastructure within the scope of the Pyrenees Facility Operations EP

Structure	Water Depth (m)	Latitude	Longitude	Titles
Pyrenees FPSO Facility				
Pyrenees Facility	200	21° 32' 28.12671822" S	114° 06' 58.55946505" E	WA-42-L
Production wells				
Crosby - 3H1	204	21° 32' 43.06267192" S	114° 05' 42.50447160" E	WA-42-L
Crosby - 4H2	204	21° 32' 42.98265112" S	114° 05' 40.46821800" E	WA-42-L
Crosby - 5H3	202	21° 31' 44.49422152" S	114° 06' 05.84823600" E	WA-42-L
Crosby - 6H4	202	21° 31' 44.59731472" S	114° 06' 03.83841720" E	WA-42-L
Moondyne-1H1	191	21° 32' 05.45036872" S	114° 09' 17.97139800" E	WA-42-L
Moondyne-2H2	191	21° 32' 05.47982032" S	114° 09' 19.71615240" E	WA-42-L
Ravensworth - 3H1	209	21° 32' 19.94805832" S	114° 05' 03.26322240" E	WA-43-L
Ravensworth - 4H2	209	21° 32' 18.92186752" S	114° 05' 03.37507800" E	WA-43-L
Ravensworth - 5H3	208	21° 32' 17.27543992" S	114° 05' 04.40305800" E	WA-43-L
Ravensworth - 6H4	208	21° 32' 16.56928912" S	114° 05' 04.34562360" E	WA-43-L
Ravensworth - 7H5	210	21° 31' 48.52389952" S	114° 05' 05.83185840" E	WA-42-L
Ravensworth - 8H6	210	21° 31' 46.28295712" S	114° 05' 06.99909360" E	WA-42-L
Ravensworth - 10H7	209	21° 31' 48.36774232" S	114° 05' 09.24021240" E	WA-42-L
Stickle - 4H1	199	21° 31' 23.67887032" S	114° 06' 35.28941400" E	WA-42-L
Stickle - 5H2	199	21° 31' 22.04032312" S	114° 06' 33.72709320" E	WA-42-L
Stickle - 6H3	199	21° 31' 21.55597912" S	114° 06' 33.11816040" E	WA-42-L
Stickle - 8H4	198	21° 31' 23.96606752" S	114° 06' 37.27612440" E	WA-42-L
Stickle-9H5	195	21° 31' 09.48247552" S	114° 07' 23.40927120" E	WA-42-L
Tanglehead-1H1	195	21° 31' 21.41918992" S	114° 07' 26.10295680" E	WA-42-L
Tanglehead-2H2	195	21° 31' 21.58738192" S	114° 07' 27.71560200" E	WA-42-L
Wildbull-1H1	212	21° 31' 13.20441112" S	114° 05' 06.05845680" E	WA-42-L
Gas Injection Well				
Macedon - 6	181	21° 34' 03.49066432" S	114° 10' 00.84305640" E	WA-42-L
Water Injection Well				
Crosby - 7WI	197	21° 29' 57.59613112" S	114° 07' 36.30057960" E	WA-42-L
Moondyne-3WI	191	21° 32' 03.80817832" S	114° 09' 18.00202680" E	WA-42-L
Ravensworth - 9WI	213	21° 30' 09.55413592" S	114° 05' 43.14401520" E	WA-42-L
Stickle - 7WI	191	21° 30' 09.27344032" S	114° 08' 41.61371280" E	WA-42-L

Environment that may be affected (EMBA)

The EMBA is the largest spatial extent where the Pyrenees Facility Operations EP activities could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned and unplanned activities. For this EP, the EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA are loss of well containment and vessel collision. The EMBA is depicted in **Figure 4**.

The EMBA does not represent the extent of the predicted impact of the highly unlikely unplanned release of hydrocarbons. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, depending on the weather and ocean conditions at the time of the release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known at the time of the release. To learn more about an EMBA, please see the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) video on oil spill modelling on its website www.nopsema.gov.au.

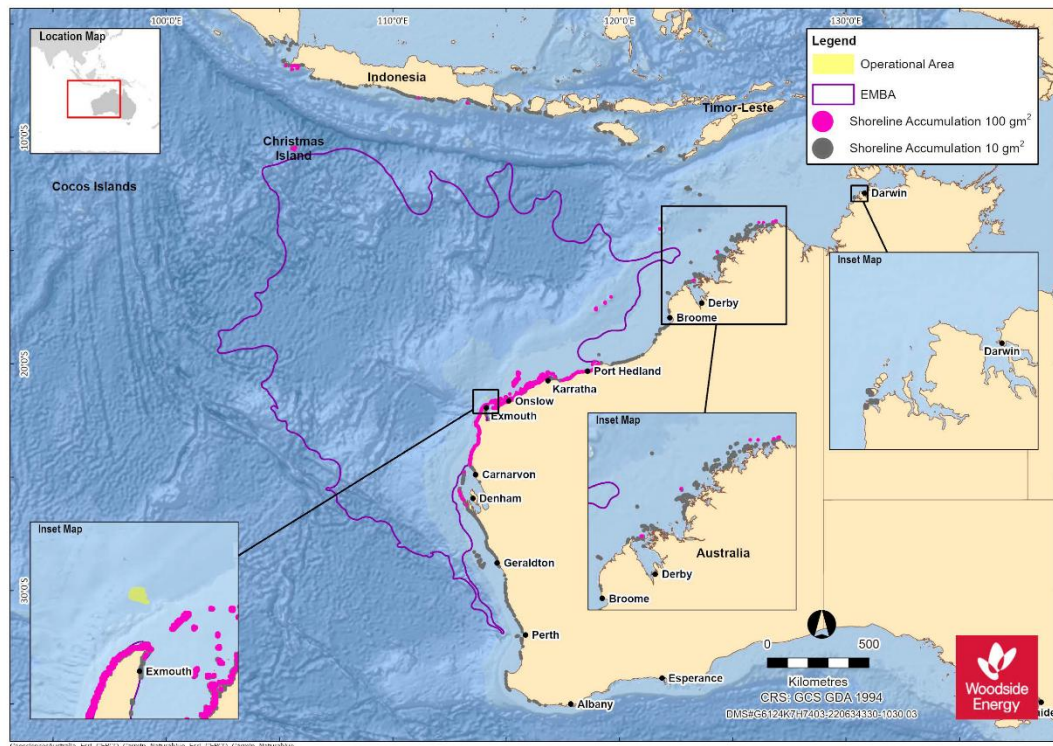


Figure 4. Updated Pyrenees FPSO Operations Environment that May Be Affected (EMBA) by an unplanned hydrocarbon release from an accident/incident during the Petroleum Activities Program.

Potential Impacts and Risks and Mitigation and Management Measures

Woodside has undertaken an assessment to identify potential impacts and risks to the environment arising from the Pyrenees Facility Operations activity, including IMMR activities and other contingent activities. A number of mitigation and management measures for the activity are outlined in Table 3. Further details will be provided in the EP.

In preparing the EP, Woodside's intent is to minimise environmental, social and cultural risks and impacts associated with the proposed activities, and Woodside seeks your feedback to inform our decision making.

Table 3. Summary of key risks and/or impacts and preliminary management measures for the activity

Potential Impact/Risk	Description of Source of Potential Impact/Risk	Description of Potential Impact/Risk	Proposed Mitigation and/or Management Measure
Planned activities (routine and non-routine)			
Physical presence: interaction with other marine users, cultural values & heritage	- The presence of FPSO, other vessels and subsea infrastructure has the potential to exclude and/or displace other users from the Pyrenees Petroleum Safety Zone and Operational Area respectively. - Physical presence of project vessels and activities may have potential to impact cultural values and heritage.	- Localised displacement of commercial fishing from the Operational Area. - Displacement of recreational fishing activity is likely to be low level due to the distance from boating facilities, lack of natural attractions (e.g. reefs or shoals) and water depth of Operational Area. - The presence of support vessels could cause temporary disruption to commercial shipping. No recognised shipping lanes overlap the Operational Area. - Tourism and recreation within the Operational Area is expected to be infrequent due to the lack of emergent features or natural attractions (e.g. reefs or shoals) and water depth.	- Vessels adhere to regulatory requirements for navigational safety. - Maintain a permanent Petroleum Safety Zone around the FPSO. - Notify Australian Hydrographic Office (AHO) of locations of new permanent infrastructures to enable update of maritime charts. - Consult with relevant persons so that they are informed of the proposed activities. - FPSO collision prevention system implemented to alert marine vessels of the facility location. - Woodside will actively support the capacity of Traditional Custodians for ongoing engagement and consultation on environment plans, for the purpose of avoiding impacts to cultural heritage values.
Physical presence: disturbance to seabed	- Seabed disturbance may result from the following activities: - Presence of FPSO, wells and subsea infrastructure (including moorings) modifying marine habitats. - Subsea operations, inspection, maintenance and repair activities resulting. - Anchoring as required in emergency conditions.	- Localised modification of seabed habitat within the Operational Area through seabed scouring around subsea infrastructure or formation of artificial reef. - The infrastructure provides hard substrate for marine organisms and a fouling community. This may result in local increase biological productivity and diversity within the Operational Area. - During IMMR activities, a localised and temporary decline in water quality due to an increase of suspended sediment concentration and sediment deposition may occur.	- Monitoring and maintenance of all subsea infrastructure completed as per IMMR process. - Any new subsea infrastructure to have an as-left survey completed and location to be recorded.
Routine Light Emissions: Light Emissions from FPSO, Vessel Operations and Operational Flaring	- The FPSO, vessels (including IMMR) and Remote Operation Vehicles (ROV) will use external lighting to conduct safe operations. - Light emissions from FPSO during flaring.	Light emissions have the potential to temporarily affect fauna such as fish, marine reptiles and seabirds by influencing changes in their behaviour or impacting orientation in close proximity to the FPSO or vessels.	- Lighting limited to the minimum required for navigational and safety requirements, except for emergency events. - Flare management through reinjection to reduce flare intensity. - Implement a seabird management plan.

6 Pyrenees Facility Operations Environment Plan | Updated February 2025

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 880 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Potential Impact/Risk	Description of Source of Potential Impact/Risk	Description of Potential Impact/Risk	Proposed Mitigation and/or Management Measure
Routine acoustic emissions: generation of noise during routine operations	Noise generated within the Operational Area from: • FPSO and associated subsea infrastructure; • Vessels; • Helicopters; and • IMMR activities (e.g. ROVs, AUVs, side scan sonar, echo sounder, vessels on DP).	- Elevated underwater noise can potentially disturb marine fauna, including marine mammals, turtles, and fish through behavioural effects, masking or interfering with other biologically important sounds (echolocation, vocal communication, signals, and sounds produced by predators or prey) or as direct physical damage. - The migration corridor (Biologically Important Area (BIA)) for pygmy blue whales and humpback whales overlaps with a small portion of the Operational Area and may expose the mammals to underwater noise during seasonal migrations. Given the underwater noise levels and low likelihood of the whales being present in the Operational Area, the potential for impact is considered highly unlikely.	Comply with regulatory requirements for interactions with marine megafauna.
Routine and non-routine atmospheric and Greenhouse Gas (GHG) emissions	Atmospheric emission and GHG emissions generated through fuel combustion from FPSO, vessels and helicopters, FPSO operational flaring and fugitive emissions (e.g. compressors, generators etc.).	- Emissions could result in temporary, localised reductions in air quality in the immediate vicinity. - Contribution to GHG emissions.	- Comply with regulatory requirements for GHG emissions and reporting. - Monitoring, review and optimisation of facility fuel and flaring emissions where possible.
Routine and non-routine discharges: Subsea Operations and Activities	Occasional discharge of brine, cooling water, drain, deck, bilge water, grey water, sewage and putrescible waste from vessels to the marine environment.	Localised and temporary effects to water quality and marine biota.	- Marine discharges managed in accordance with regulatory requirements. - Chemicals selected with the lowest practicable environmental impacts subject to technical constraints and approved through the Woodside chemical assessment process.
Routine and Non-routine Discharges: Utility Systems and Drains	- Discharge of sewage, greywater and putrescible waste from FPSO or vessels to the marine environment. - Discharge of deck, bilge and drain water from FPSO or vessels to marine environment.	- Potential slight, short-term, localised ongoing increase in nutrients and oxygen demand around FPSO and vessels with no lasting effect. - Potential slight, short-term, localised ongoing decrease in water quality at discharge location. - Discharges are not likely to impact on the overlapping Key Ecological Features (KEFs) in the Operational Area.	- Marine discharges managed according to regulatory requirements. - Chemicals selected with lowest practicable environmental impacts and risks subject to technical constraints and approved through the Woodside chemical assessment process. - Onboard treatment and open / closed draining systems are monitored and maintained.
Routine and Non-Routine Discharges: FPSO production waste	Discharge of production waste (produced water).	Overboard discharges causing localised changes in water quality may result in potential environmental impacts to biota within the Operational Area.	- Marine discharges managed according to regulatory requirements. - Continuous measurements and monitoring of Produced Water (PW) Systems. Diversion of PW if measurements exceed acceptable baseline levels. - Chemicals selected with lowest practicable environmental impacts and risks subject to technical constraints and approved through the Woodside chemical assessment process. - Maximise the reinjection of produced water.

Potential Impact/Risk	Description of Source of Potential Impact/Risk	Description of Potential Impact/Risk	Proposed Mitigation and/or Management Measure
Unplanned events (accidents / incidents)			
Unplanned Hydrocarbon or Chemical Release: <i>Hydrocarbon release during Bunkering / Refuelling and Chemical release during transfer, storage, and use</i>	- Accidental spill of hydrocarbons (diesel) to the marine environment during bunkering / refuelling. - Chemical release to marine environment during transfer, storage and use.	- Potential to cause localised and temporary changes to water quality from a marine diesel or chemical spill. - Marine diesel is a relatively volatile, nonpersistent hydrocarbon with up to approximately 40% evaporating within the first 24 hours for a surface spill. - Potential impacts across the EMBA may include injury/mortality to seabirds, fish, plankton, marine mammals and marine reptiles. Mortality of larger fauna is not expected to occur. - No impacts to KEFs are expected, as these KEFs are mainly benthic and will therefore not be affected by a small surface release.	- Vessels compliant with regulatory guidelines for safe operations including bunkering / refuelling and emergency response. - Chemicals selected with lowest practicable environmental impacts and risks subject to technical constraints and approved through the Woodside chemical assessment process. - Safe storage of chemicals with spill clean-up equipment available. - Equipment for bunkering / refuelling regularly inspected / maintained and replaced as required. - Regulatory reporting of unplanned releases.
Unplanned Hydrocarbon Release: <i>Loss of Hazardous and Non-Hazardous Waste / Equipment</i>	Incorrect disposal or accidental discharge of non-hazardous and hazardous waste / equipment from FPSO or vessels to the marine environment.	- Potential impacts of waste accidentally discharged to the marine environment include localised direct pollution and contamination of the environment, and secondary impacts potentially leading to injury and/or death to marine fauna (e.g. entanglement or ingestion). - The temporary or permanent loss of waste materials/equipment into the marine environment is not likely to have a significant environmental impact, based on the location of the Operational Area, the types, size and frequency of waste that could occur and species present.	- Compliance with regulatory requirements for the prevention of marine pollution and handling of hazardous wastes (i.e. Marine Orders 95 and 94). - Compliance with Waste Management Plans for the storage, handling and transportation of wastes. - Attempted recovery of dropped waste objects where safe and practicable.
Physical Presence (Unplanned): <i>Introduction of Invasive Marine Species (IMS)</i>	- Vessels transiting to the Operational Area may be subject to marine fouling whereby organisms attach to the vessel hull. - Organisms can also be drawn into ballast tanks during onboarding of ballast water. - IMS can also be present as biofouling on subsea structures.	- Transfer of IMS from infected vessels to the Operational Area and establishment on the seafloor or subsea infrastructure is not likely due to the deep offshore waters which are not conducive to the settlement and establishment of IMS. - There is potential for IMS to transfer from infected vessels and attach to FPSO or turret. - Risk is considered remote that IMS will secondarily transfer from the FPSO or turret to another vessel given the offshore open ocean environment.	- Ballast water and biofouling will be managed according to regulatory requirements, including the Australian Ballast Water Management Requirements, and the Australian Biofouling Management Requirements, as applicable. - Woodside's IMS risk assessment process applied to project vessels and immovable equipment entering the Operational Area. - Inspection of FPSO by IMS Inspector prior to return from international sail away.

Potential Impact/Risk	Description of Source of Potential Impact/Risk	Description of Potential Impact/Risk	Proposed Mitigation and/or Management Measure
Physical Presence (Unplanned): Vessel Collision with Marine Fauna	Vessel movements have the potential to result in collisions between the vessel (hull and propellers) and marine fauna.	- Vessel interaction presents a potential threat to marine mammals, marine reptiles and fish, sharks and rays. - Whilst a portion of the Operational Area overlaps pygmy blue whale and humpback whale migration BIAs, this overlap represents a very small proportion of the BIA. Given the slow speeds at which project vessels generally operate, interactions with whales are considered unlikely. - Whale shark presence in the Operational Area is likely during their migrations to and from Ningaloo Reef. Whale sharks are only expected in the area for short durations and their presence would be migratory. - The Operational Area overlaps BIAs for sensitive turtle areas but given the water depth and absence of potential for nesting, turtles are likely to only use the area infrequently for transit. - Vessel activities are unlikely to result in a consequence greater than short-term disruption to fauna, with no expected impact on critical habitat.	Comply with regulatory requirements for interactions (e.g., EPBC Regulations 2000 – Part 8 Division 8.1) with marine fauna to reduce the likelihood of a collision occurring.
Unplanned Hydrocarbon Release: Subsea Infrastructure	Accidental release of hydrocarbons resulting from loss of containment of subsea infrastructure.	Potential significant impacts to marine environment including: - Long-term impacts to sensitive nearshore areas of offshore islands and coastal shorelines. - Disruption to marine fauna, including protected species. - Potential interference with or displacement of other sea users including fisheries and tourism and recreation.	- Compliance with Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009: Accepted Safety Case. - The Subsea Infrastructure design includes a range of measures that specifically aid in minimising the risk of external damage. - Woodside management system implemented during operations to maintain infrastructure integrity, communication systems and safety instrumented systems to an acceptable standard. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Maintain a permanent Petroleum Safety Zone around FPSO. - Regulatory reporting of unplanned releases.
Unplanned Discharges: Loss of Well Containment	Accidental release of hydrocarbons to the marine environment due to loss of well containment.	- Long-term impacts to sensitive nearshore areas of offshore islands and coastal shorelines. - Disruption to marine fauna, including protected species. - Potential interference with or displacement of other sea users including fisheries, tourism and recreation.	- Compliance with Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulations 2011: WOMP, which describes the well design and barriers to be used to prevent a loss of well control and to Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009: Accepted Safety Case. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Maintain Well Safety Instrumented Systems to detect and act on events that have potential to cause a hydrocarbon event. - Regulatory reporting of unplanned releases.

Potential Impact/Risk	Description of Source of Potential Impact/Risk	Description of Potential Impact/Risk	Proposed Mitigation and/or Management Measure
Unplanned Hydrocarbon Release: <i>Vessel Collision</i>	Vessel collision involving a project vessel or third-party vessel, resulting in the release of marine diesel fuel if the collision has enough force to penetrate the vessel hull in the exact fuel location.	- In the highly unlikely event of a vessel collision it may cause a release of hydrocarbons, impacts to water quality and marine ecosystems could occur. - Marine diesel is a relatively volatile, nonpersistent hydrocarbon with up to approximately 40% evaporating within the first 24 hours for a surface spill. - Potential impacts to sensitive nearshore areas of offshore islands and coastal shorelines. - Potential disruption to marine fauna, including protected species. - Potential interference with or displacement of other sea users including fisheries, tourism and recreation.	- Compliance with regulatory requirements for safe vessel operations (i.e. Marine Orders 21, 27 and 30). - Maintain a permanent Petroleum Safety Zone around FPSO. - Management plans for simultaneous operations in place when working in vicinity of other Woodside operations / activities. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Regulatory reporting of unplanned releases.
Unplanned Hydrocarbon Release: <i>Turret Operations</i>	Release of hydrocarbons from turret operations, including spill from failure to connect / disconnect from turret, failure of mooring system, accidental leaks from storage and equipment, including ROVs.	Potential localised decline in water quality caused by accidental pollution/contamination.	- Implemented Turret Mooring System Connect and Disconnect Procedure. - Monitor the mooring system to identify potential issues with a mooring line. - Management of wells in accordance with Well Integrity Management System to prevent loss of well control and associated overpressure of turret equipment. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Regulatory reporting of unplanned releases.
Unplanned Hydrocarbon Release: <i>Offtake Operations</i>	Release of hydrocarbons from FPSO offloading equipment to the marine environment and atmosphere during offloading / transferring operations.	- Long-term impacts to sensitive nearshore areas of offshore islands and coastal shorelines. - Disruption to marine fauna, including protected species. - Potential interference with or displacement of other sea users including fisheries and tourism and recreation.	- Compliance to Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009: Accepted Safety Case. - Implemented offloading procedures and all offtake tankers vetted to ensure they meet Woodside requirements. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Maintain a permanent Petroleum Safety Zone around FPSO. - Regulatory reporting of unplanned releases.
Unplanned Hydrocarbon Release: <i>Loss of Containment of Crude Oil from FPSO</i>	Release of hydrocarbons from FPSO to the marine environment due to loss of containment from bulk storage, topsides processing equipment, non-process topsides equipment or loss of structural integrity.	- Long-term impacts to sensitive nearshore areas of offshore islands and coastal shorelines. - Disruption to marine fauna, including protected species. - Potential interference with or displacement of other sea users including fisheries and tourism and recreation.	- Compliance to Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009: Accepted Safety Case. - Maintain a permanent Petroleum Safety Zone around FPSO. - Maintenance of facility as per Performance Standard requirements. - Implemented Emergency Response and Spill Management Plans and maintained environmental response equipment. - Regulatory reporting of unplanned releases.

*These mitigation and management measures are subject to change through the consultation and subsequent assessment process and may not represent content in the publicly available EP or in the final plan once accepted

Feedback

Woodside consults relevant persons in the course of preparing Environment Plans to notify them of the activity and to obtain relevant feedback to inform its planning for proposed petroleum activities.

If you would like to comment on the proposed activities outlined in this information sheet, or would like additional information, please contact Woodside before **19 March 2025** via:

feedback@woodside.com
Toll free: 1800 442 977

You can subscribe on our website to receive Consultation Information Sheets for proposed activities:
[woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)

Please note that stakeholder feedback will be communicated to NOPSEMA as required under legislation. Woodside will communicate any material changes to the proposed activity to affected relevant persons as relevant and appropriate.

Your feedback and our response will be included in our EP for the proposed activity, which will be submitted to NOPSEMA for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth) and support other regulatory processes associated with the planned activities (which may or may not be confidential).

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit:
[woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



11 Pyrenees Facility Operations Environment Plan | Updated February 2025

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 885 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

3.2 Email sent to Northern Territory Seafood Council, Department of Infrastructure, Planning and Logistics (DIPL) – Marine Safety; Department of Industry, Tourism and Trade (DITT) – Aquatic Biosecurity (17 February 2025)

Woodside previously consulted you in December 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur.

Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation.

Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **19 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in

accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

3.3 Email sent to Department of Industry, Tourism and Trade (DITT) – Mining and Energy; Department of Industry, Tourism and Trade (DITT) – NT Fisheries; Shire of Derby/West Kimberley; Derby Chamber of Commerce and Industry; East Kimberley Chamber of Commerce and Industry; Shire of Harvey; Shire of Wyndham/East Kimberley; Department of Environment, Parks and Water Security (DEPWS); Northern Territory Environment Protection Agency (NTEPA); Northern Prawn Fishery individual licence holders; (17 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either

as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur.

Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation.

Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **19 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

3.4 Email sent to Northern Prawn Fishery Industry Pty Ltd (17 February 2025)

Woodside previously consulted you in October 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 888 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur.

Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation.

Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **19 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,

Woodside Energy Feedback

3.5 Email sent to Australian Fisheries Management Authority (AFMA) (17 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 889 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation. With regards to Commonwealth fisheries, the Northern Prawn Fishery is now relevant to the EMBA. The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **19 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy

Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards,

Woodside Energy Feedback

3.6 Email sent to Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries; Commonwealth Fisheries Association (CFA) (17 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation. With regards to Commonwealth fisheries, the Northern Prawn Fishery is now relevant to the EMBA, along with the North West Slope Trawl Fishery, Western Deepwater Trawl Fishery and Western Tuna and Billfish Fishery. The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 891 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **19 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards,

Woodside Energy Feedback

3.7 Email sent to Department of Defence (DOD) (17 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation. With regards to Commonwealth fisheries, the

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 892 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Northern Prawn Fishery is now relevant to the EMBA, along with the North West Slope Trawl Fishery, Western Deepwater Trawl Fishery and Western Tuna and Billfish Fishery. The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **19 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards, Woodside Energy Feedback

3.8 Email sent to Director of National Parks (DNP) (17 February 2025)

Dear Director of National Parks,

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 893 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Through review of hydrocarbon spill modelling, and with consideration of a 50 ppb dissolved and 100 ppb entrained hydrocarbon threshold, the following AMPs may be contacted in the event of a spill: Abrolhos MP

- Carnarvon Canyon MP
- Gascoyne MP
- Montebello MP
- Ningaloo MP
- Shark Bay MP

Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation.

Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **19 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards, **Woodside Energy Feedback**

3.9 Email sent to Department of Foreign Affairs and Trade (DFAT) (18 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 894 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **20 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards, Woodside Energy Feedback

3.10 Email sent to Australian Maritime Safety Authority (AMSA) – Marine Safety; Australian Hydrographic Office (AHO) (18 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. An updated shipping lanes map is also attached. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **20 March 2025**.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 896 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards,

Woodside Energy Feedback

3.11 Email sent to Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (18 February 2025)

Woodside previously consulted you in October 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated

Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **20 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards, Woodside Energy Feedback

3.12 Email sent to Amateur Fishermen's Association of the Northern Territory; Northern Territory Guided Fishing Industry Association (NTGFIA); Australian Maritime Safety Authority (AMSA) – Marine Pollution; Western Australian Museum (WAM); Department of Planning, Lands and Heritage (DPLH); Department of Climate Change, Energy, the Environment and Water (DCCEEW); 18 February 2025)

Woodside previously consulted you in December 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 898 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **20 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards,

Woodside Energy Feedback

3.13 Email sent to Department of Transport (DoT) (18 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 899 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Woodside will provide DoT with an updated Oil Pollution First Strike Plan in due course.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **20 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards, Woodside Energy Feedback

3.14 Email sent to Department of Energy, Mines, Industry Regulation and Safety (DEMIRS); Department of Industry, Science and Resources (DISR) (18 February 2025)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 900 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **20 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations

2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,

Woodside Energy Feedback

3.15 Email sent to Department of Primary Industries and Regional Development (DPIRD) (20 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 902 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. With regards to changes to relevant State fisheries, Cockburn Sound (Fish Net) Managed Fishery, Kimberley Prawn Managed Fishery and Open Access in the South Coast Bioregion are now relevant to the EMBA, while Broome Prawn Managed Fishery, West Australian Sea Cucumber Fishery, Hermit Crab Fishery and Mandurah to Bunbury Developing Crab Fishery are no longer relevant to the EMBA. Fisheries relevant to the Operational Area remain the same. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures. **Feedback**

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **22 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards,

Woodside Energy Feedback

3.16 Email sent to Western Australian Fishing Industry Council (WAFIC) (20 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

As discussed further below, we are currently undertaking additional consultation due to changes to the EMBA for this activity. While there have been some changes to the State fisheries relevant to the EMBA, there are no changes to the fisheries relevant to the Operational Area. Therefore, we consider that no further consultation is necessary with individual fisheries, however, please advise if WAFIC considers further consultation is required.

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 903 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. With regards to changes to relevant State fisheries, Cockburn Sound (Fish Net) Managed Fishery, Kimberley Prawn Managed Fishery and Open Access in the South Coast Bioregion are now relevant to the EMBA, while Broome Prawn Managed Fishery, West Australian Sea Cucumber Fishery, Hermit Crab Fishery and Mandurah to Bunbury Developing Crab Fishery are no longer relevant to the EMBA. Fisheries relevant to the Operational Area remain the same. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **22 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards, Woodside Energy Feedback

3.17 Email sent to Australian Border Force (ABF) (20 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 904 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **22 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards, Woodside Energy Feedback

3.18 Email sent to Department of Biodiversity, Conservation and Attractions (DBCA) (21 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **24 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 906 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards, Woodside Energy Feedback

3.19 Email sent to Shire of Chapman Valley; Shire of Waroona (26 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **28 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations

2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards, Woodside Energy Feedback

3.20 Email sent to Mid West Geothermal Power (26 February 2025)

Woodside previously sought to contact you in September 2023 regarding the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **28 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

3.21 Email sent to Kimberley Ports Authority (27 February 2025)

Woodside previously consulted you in September 2023 on the five-year revision of the Pyrenees Facility Operations Environment Plan (EP).

The EP is currently under assessment and is publicly available on the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)'s [website](#).

Activity Overview

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L.

Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

The activities that will continue include:

- Routine oil production, including crude oil offloading and associated activities,
- Routine inspection, monitoring, maintenance and repair (IMMR) of the FPSO and associated subsea infrastructure; and
- Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Additional Consultation

In accordance with Commonwealth EP consultation requirements, Woodside consults persons or organisations based on the geographical extent of the environment that may be affected (EMBA) by a proposed petroleum activity.

As part of the EP development process, Woodside has undertaken additional modelling which has resulted in changes to the EMBA for the Pyrenees Facility Operations EP. Because of this change, Woodside is undertaking additional consultation.

The EMBA is the largest area where activities could potentially have a direct or indirect impact on the environment. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for this EP, is determined by modelling a release of crude oil to the environment either as a result of a loss of well containment, or a vessel collision with the FPSO with enough force to breach the hull. A release of this kind is highly unlikely to occur. Please see the attached updated Consultation Information Sheet which includes an updated map for the revised EMBA, including potential shoreline accumulation. Other details regarding this activity remain the same as during the initial consultation, including the activity description, location of the activity, timing of the activity, impacts and risks associated with the activity, and proposed mitigation and management measures.

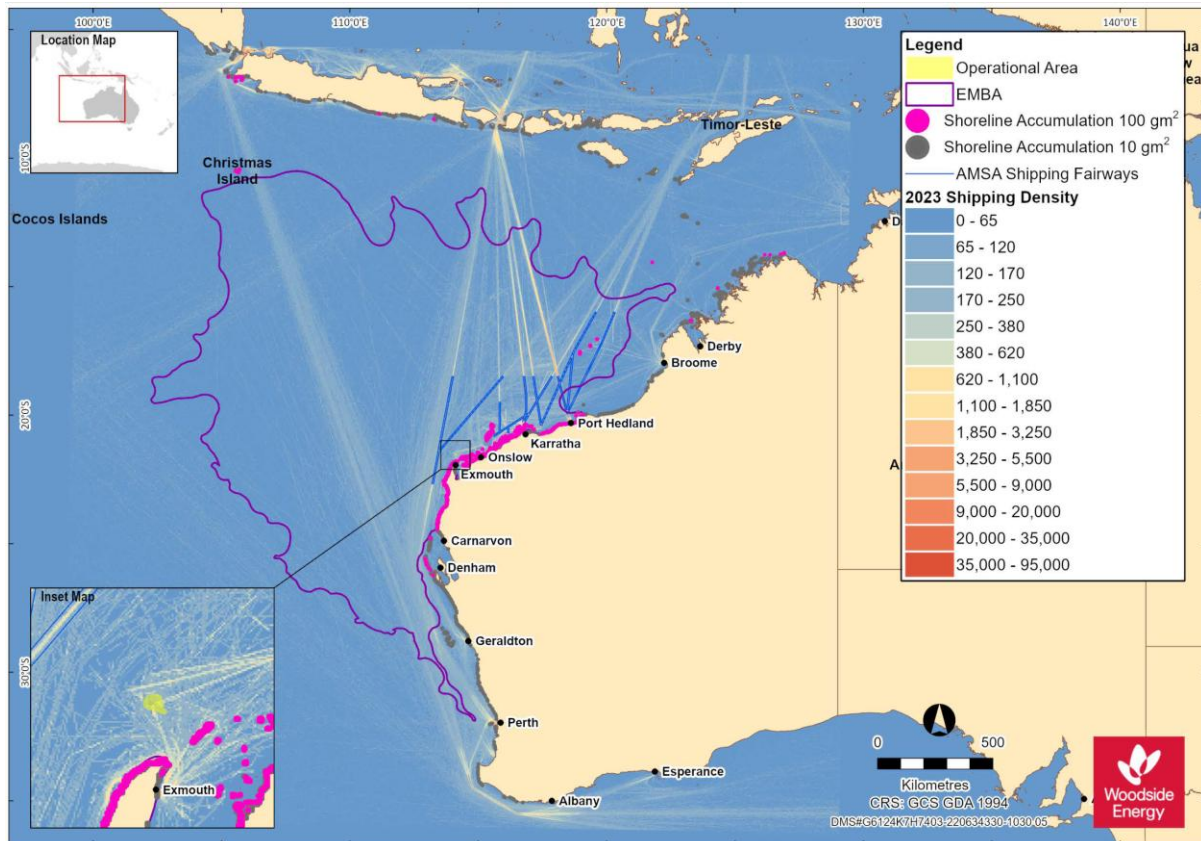
Feedback

If you have feedback specific to the proposed activities, we welcome your feedback at feedback@woodside.com or 1800 442 977 by **29 March 2025**.

Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA so that the information is not included when the EP is published on NOPSEMA's website. Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#). Kind regards, Woodside Energy Feedback

3.22 Updated shipping lane map



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

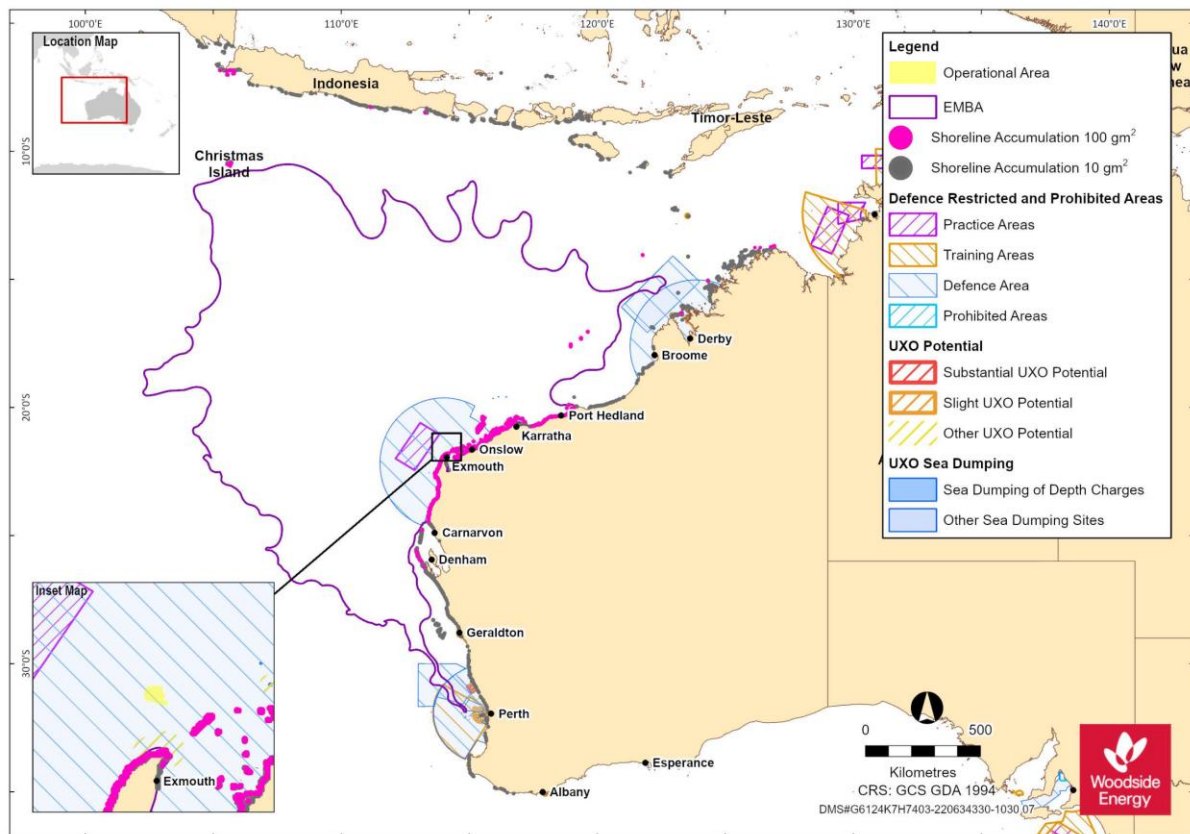
Controlled Ref No: PYHSE-E-001

Revision: 5

Page 910 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

3.23 Updated defence zone map



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 911 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

3.24 Updated State Historical Shipwrecks list

Pyrenees Facility Operations Environment Plan
State Historical Shipwrecks overlap

Vessel Name	Comments	When Lost	Where Lost	Latitude	Longitude
Abandoned Fishing Vessel		2006		18°01.0	109°06
Ada	Cutter	2/19/1921	North Island	28°15	113°32
Agnes	Lugger	1893	Exmouth Gulf	21°45	114°05
Airlie	Schooner	1889/01/04	Ashburton River	21°40	114°52
Alice		1891	Intercourse Island, Dampier Archipelago	20°39.2	116°38.7667
Ann Millicent	Barque	1888/01/05	NT Waters Cartier Reef near Cartier Island	12°32.50002	123°32.60466
Atoetta	Fishing vessel	7/16/1963	West Wallabi	28°22	113°35
Beadon Creek UNID	Unknown		Beadon Creek, Onslow	21°38.9	115°7.868
Beadon Creek UNID #2	Other		Eastern side of Beadon Creek	21°38.69550	115°07.93367
Bedout		1849?	Augusta	34°18.0	115°04.0
Bell	Lugger	1893/02/25	Exmouth	21°45	114°05
Belle of Bunbury	Schooner	1886/12/10	Warnboro Safety Bay, Pub Passage	32°18.648	115°41.491
Ben Ledi		1879/12/16	Abrolhos Islands, Pelsaert Islands	28°56.2122	113°58.1535
Benan		1888/12/13	Point Cloates	22°44.491	113°40.47
Bertha	Cutter	1874/07/20	Reef off Point Cloates	22°33	113°30
Boodarie landing		unknown	Boodarie landing	20°20.64726	118°26.9817
Browse Island Unidentified	Ship	1880	Browse Island, 250m off eastern side	14 06.444	123 33.303
Chofuku Maru	Steamer screw	2/5/1931	Point Cloates	22°31.053	113°39.779
City of York Bay Unidentified		unknown	City of York Bay Rottnest	31°59.693689	115°29.802082
Cock of the North	Ketch (Aux)	1879/05/07	20 km north of Geraldton	22°33	113°30
Columbia	Boat	2/18/1921	Beacon Island	28°42	113°46
Correio da Azia	Ship	1816/11/25	Point Cloates	22°51.80598	113°45.04002
Cossack	Cutter	1889/02/28	Ashburton River (?)	21°40	114°52

1 | 6

Pyrenees Facility Operations Environment Plan
State Historical Shipwrecks overlap

Vessel Name	Comments	When Lost	Where Lost	Latitude	Longitude
Crown of England	Barque	3/21/1912	Wreck Point, Depuch Island	20°37.04958	117°43.9278
Curlew	Lugger	2/7/1911	At Onslow, Monte Bellos Group	20°00	115°10
Cutty Sark	Schooner	3/14/1907	Bay of Rest, Exmouth	22°15	114°08
Dampier		unknown	Enderby Island, Dampier Archipelago	20°31.4	116°14.2
Depuch Island inscriptions and graves		unknown	Depuch Island	20°36.59364	117°43.31886
Don Joseph	Lugger	1899/04/30	5-7 NM south of Point Cloates	22°37	113°36
Eclipse	Schooner	3/14/1907	Bay of Rest, Exmouth	22°15	114°08
Eddystone	Steamer screw	1894/09/11	Depuch Island Passage, Balla Balla	20°36.198	117°44.0964
Elizabeth	Lugger	1893/02/25	Exmouth Gulf	21°45	114°05
Ellen	Lugger	1893/02/25	Exmouth Gulf	21°45	114°05
Emlyn Castle		1960		21°47.0833	114°09.9
Emma	Schooner	1867/03	Coral Bay	23°04.953	113°44.010
Experimental shell pool	Other		North Delta Island, Monte Bello Islands	20°25.910546	115°32.605015
F.B. North Cape	Fishing vessel	4/3/1953	Green Islands	30°40	115°05
Fairwind	Fishing vessel	2/21/1964	Rat Island	28°42	113°46
Fairy Queen ex Rhio	Brigantine	1875/10/08	Northwest Cape	21°49.029	114°11.347
Fin	Steamship	1/15/1923	Point Cloates, Fraser Island	22°38.856	113°37.696
Florence	Cutter	1893/02/25	Exmouth Gulf	21°45	114°05
Fortesque Landing		unknown		21°00.46398	116°05.78544
G 267	Fishing vessel	4/18/1962	Rat Island	28°42	113°46
G.S.S.	Lugger	1883	Pt Cloates	22°33	113°30
Genesta	Cutter	7/13/1909	Off White Beach, Dorre Island	24°50	112°56
Haw Kiet		2003		18°27.49	117°15.5
Hawk	Lugger	3/14/1907	In Bay of Rest, Exmouth	22°15	114°08

2 | 6

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 912 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Pyrenees Facility Operations Environment Plan
State Historical Shipwrecks overlap

Vessel Name	Comments	When Lost	Where Lost	Latitude	Longitude
Helen Maria	Fishing vessel	3/26/1960	2 miles off North Island	28°15	113°32
Iona	Barque	4/16/1923	Point Cloates, entering Black Rock Passage	22°48	113°38
Jane Bay One Unidentified		unknown	Jane Bay	22°43.93902	113°43.9272
Jane Bay Two Unidentified		unknown	Jane Bay, Point Cloates	22°44.27100	113°44.39898
Jon Jim	Fishing Boat	1961	Pelsaert Island, Wreck Pt	28°59.16384	113°57.73524
Kadna		1902	1902	17°57.7	112°14.183
Kapala		5/1/1964	Exmouth Gulf	21°45	114°05
Kiryo Maru	Fishing Boat	8/6/1984	Cathedral Rocks, Rottnest Island	32°01.2207	115°26.97084
Koombana	Steamship	3/20/1912	Between Port Hedland and Broome, near Bedout Island	19°24	118°54
Korean Star		5/20/1988	Cape Cuvier	24°12.84126	113°25.16034
Kormoran HSK		11/19/1941	150 miles of Carvarvon	26°05.823333	111°13.4583333
Lady Ann	Ship (non-sail)	9/18/1982	24 miles north of NW Cape	21°24	114°12
Lamareaux	Lugger	1893/02/25	Exmouth Gulf	21°45	114°05
Leave	Lugger	1893/02/25	Exmouth Gulf	21°45	114°05
Lily of the Lake	Schooner	1875/12/24	Exmouth Gulf	21°45	114°05
Lively	Ship	1806/07	Mermaid Reef, Rowley Shoals	17°05.381	119°35.490
Mabel	Lugger	1893/02/25	Exmouth Gulf	21°45	114°05
Macey's Wreck Unidentified		unknown	Mardie Station	21°11.75004	115°50.82726
Magnolia	Yacht	12494	Between Red Bluff and Gnarlou	23°50	113°31
Mandrake	Fishing vessel	6/1/1961	Rat Island West Reef	28°42	113°46
Maratta		1905		20°43.67	115°25.567
Marietta		2/8/1905	Barrow Island	20°00	115°10
Marten	Schooner	1878/03/04	Pelsaert Island	28°56.2122	113°58.1535
Marutta		1905		20°43.67	115°25.57

3 | 6

Pyrenees Facility Operations Environment Plan
State Historical Shipwrecks overlap

Vessel Name	Comments	When Lost	Where Lost	Latitude	Longitude
Mary B		1920		20°01.15	118°48.6
Mauds Landing		unknown		23°06.83664	113°46.52766
McCormack	Barge	1989/10/00	N.E. tip of Eaglehawk Island West of Dampier, Dampier Archipelago	20°08.200	115°57.200
McDermott Derrick Barge No 20	Barge	10/20/1989	N.E. tip of Eaglehawk Island, Dampier Archipelago	20°08.200	115°57.200
Mildura	Steamer	1166	North-West Cape	21°47.04552	114°10.0641
Min Pin Liu No. 25 (Also Ming Pin Liu)	Boat	3/10/1999	Cornelisse Shoal	20°02.483	118°22.083
Miss Phoenix	Fishing vessel	3/11/1961	Half mile east of Green Island	30°40	115°06
Nellie	Lugger	1893/02/25	Exmouth Gulf	21°45	114°05
Norwegian Bay Unidentified Barge		unknown	Off Norwegian Bay Whaling Station	22°35.54616	113°40.23432
Norwegian Bay Whaling Station boat	Boat	1990	10 m N of whaling station jetty	22°35.56475	113°40.2941
Occator	Brigantine	1856/02/09	Around 55 kilometres south of the Cape at Carbaddaman Passage	22°25	113°41
Olive	Lugger	1893/02/25	Exmouth Gulf	21°45	114°05
Onslow Jetty		unknown		21°37.86762	115°06.52728
Parks Lugger		unknown	Hermite Island, Montebello Islands	20°28.62492	115°31.71108
Patience	Schooner	7/13/1930	Between Red Bluff and Cape Cuvier	24°00	113°12
Pearl	Cutter	1896/02/06	Exmouth Gulf, Meda Creek	21°45	114°05
Pearl	Lugger		Off North Turtle Island	19°54.016	118°52.778
Pelsart (Pelsaert)	Cutter	10/15/1908	12 miles Northwest of Imperieuse Reef, Rowley Shoals	17°34	118°35
Perentie		11/8/1976	Barrow Island	20°43.67	115°25.57
Perth	Steamship	1887/09/17	Point Cloates	22°41.548	113°38.536

4 | 6

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 913 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Pyrenees Facility Operations Environment Plan
State Historical Shipwrecks overlap

Vessel Name	Comments	When Lost	Where Lost	Latitude	Longitude
Plym HMS	Warship	17808	Trimouille Island Island	20°24.208	115°33.950
Point Cloates Unidentified/ Ningaloo Reef Unidentified		unknown	North of Correo da Azia site	22°51.768	113°44.70402
Port Hedland Jetty (now demolished)		unknown		20°18.999	118°34.3998
Preston	Schooner	1855/09/20	Pelsaert Group	28°47	113°45
Queen	Cutter	1892/01/25	Off Point Cloates	22°33	113°30
Raconteur ex-Nanango		1976	Bernier Island	24°47.22864	113°09.8424
Rapid	Ship	1811/01/07	Ningaloo Reef	22°44.36628	113°41.55858
Rose	Lugger	4/27/1908	Ashburton	21°35	114°50
Ruby	Lugger	1893/02/25	Exmouth Gulf	21°45	114°05
S.S.S.		2/7/1901	Off Point Cloates	22°39.5	113°35
Sabik	Fishing vessel	3/14/1970	North Island, Abrolhos	28°15	113°32
Samson II		8/17/1998		20°25.88	117°12.717
Sea Queen	Lugger	1893/02/25	Exmouth Gulf	21°45	114°05
Sea Ripple	Barquentine	1893/02/25	Onslow	21°38	115°07
See Taube		1954	North-east of Rowley Shoals	17°00	118°45
Shunsei Maru		2/5/1931	Carbaddaman Passage, north of Point Cloates	22°25	113°41
Smuggler	Lugger	1893/02/25	Exmouth Gulf	21°45	114°05
Solveig	Barque	2/19/1903	Point Samson	20°37.5315	117°11.87142
Stefano	Barque	1875/10/27	Point Cloates	22°49.613	113°43.271
Strathmore	Barque	1870	Point Cloates	22°33	113°30
Sydney HMAS	Warship	19/11/1941	113 n miles W of Steep Point	26°14.6166667	111°13.05
Tantabiddi Lagoon Admiralty anchor			Tantabiddi Lagoon	21 54.843	113 57.779
Torrens HMAS	Warship	6/16/1999		31°47.0	114°47.0
Transit	Schooner	1842/05/08	Duck Rock, Rottnest	31°59.26	115°32.617

5 | 6

Pyrenees Facility Operations Environment Plan
State Historical Shipwrecks overlap

Vessel Name	Comments	When Lost	Where Lost	Latitude	Longitude
Trial	Ship	1622/05/24	Trial Rocks	20°17.159	115°22.514
Tropic Queen		4/9/1975		20°26	115°30.05
Unidentified Lighter 1		1872/02	Chapman River	28°46	114°36
Unidentified Lugger		1893/02/25	Exmouth Gulf	21°45	114°05
Unnamed Boat		1839/07/28	Augusta	34°18.0	115°04
Veronica	Lugger	1928/07	Sunday Island, Exmouth Gulf	21°41	114°23
Vianen	Ship	1628/01/25	Barrow Island Area	20°00	115°10
Vittoria		7/25/1929	Dorre Island	24°50	112°56
Wild Wave	Schooner	1875/12/24	Exmouth Gulf	21°45	114°05
Wild Wave (China)	Brig	1873/08/30	Monte Bello Island	20°00	115°10
Wyndham	Schooner	1/26/1910	Point Cloates	22°33	113°30
Yule	Lugger	9/22/1922	Oyster Inlet, Port Hedland	20°20.42	118°28.6
Zelma		7/20/1990	Dampier Archipelago	20°22.63	116°52.48
Zuytdorp	Ship	1712/06/09	North of Kalbarri	27°11.16685	113°56.187205
Zvir	Steamship	11/27/1902	Point Cloates	22°36.55	113°37.56

6 | 6

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 914 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

3.25 Updated Commonwealth Historical Shipwrecks list

Pyrenees Facility Operations Environment Plan
Commonwealth Shipwrecks overlap

Vessel Name	Vessel Type	When Lost	Where Lost	Latitude	Longitude
Abandoned Fishing Vessel	Unknown	2006		-18.01666667	109.1
Ada	Sailing vessel	1914	Off Abrolhos Islands	-28.16666667	113.3333333
Agnes	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Airlie	Sailing vessel	1889	Ashburton River	-21.66666667	114.8666667
Alex T. Brown	Unknown	1917	2 Miles North Yanchep	-31.51666667	115.6
Alexandra	Sailing vessel	1872	Geraldton	-26.66666667	112
Alfred	Sailing vessel	1908	Off north-west coast	-17	118.75
Alice		1891	Intercourse Island, Dampier Archipelago	-20.65333333	116.6461117
Almar	Trawler	1968	Abrolhos islands	-28.16666667	113.3333333
Amelia	Sailing vessel	1874	Shark Bay	-24.5	113
Ann Millicent	Sailing vessel	1888	NT Waters Cartier Reef near Cartier Island	-12.541667	123.543411
Anna Marea	Trawler	1970	Abrolhos	-28.16666667	113.3333333
Anxiety	Sailing vessel	1898	Shark Bay area	-24.25	112
Arab	Sailing vessel	1921	Geraldton	-26.66666667	112
Arabian	Sailing vessel	1872	Geraldton	-26.66666667	112
Barbara Gay	Trawler	1962	Near Geraldton	-26.66666667	112
Beatrice	Sailing vessel	1899	Off North-West Cape	-21.61666667	113.9833333
Bell	Sailing vessel	1893	Exmouth	-21.75	114.0833333
Belle of Bunbury	Sailing vessel	1886	Warnboro Safety Bay, Pub Passage	-32.3108	115.6915167
Ben Ledi	Sailing vessel	1879	Abrolhos Islands, Pelsaert Islands	-28.93687	113.969225
Benan	Sailing vessel	1888	Point Cloates	-22.74151667	113.6745
Bertha	Sailing vessel	1874	Reef off Point Cloates	-22.55	113.5
Beryl Joyce	Trawler	1957	Gap at Northampton	-26.66666667	112
Boodarie landing			Boodarie landing	-20.344121	118.449695

118

Pyrenees Facility Operations Environment Plan
Commonwealth Shipwrecks overlap

Vessel Name	Vessel Type	When Lost	Where Lost	Latitude	Longitude
Cheryl D	Trawler	1962	Eve's Passage, Geraldton	-26.66666667	112
Chofuku Maru	Twin screw steamer	1931	Point Cloates	-22.51755	113.6629833
City of York Bay Unidentified	Unknown		City of York Bay Rottneest	-31.966	115.4955
Cock Of The North	Sailing vessel	1879	Point Cloates	-22.55	113.5
Correio da Azia	Sailing vessel	1816	Point Cloates	-22.8628	113.7450667
Cossack	Sailing vessel	1889	Ashburton River (?)	-21.66666667	114.8666667
Crighton	Launch	1921	Island Homestead	-24.25	112
Crown of England	Sailing vessel	1912	Wreck Point, Depuch Island	-20.617493	117.73213
Crusader	Trawler	1966	Abrolhos islands	-28.16666667	113.3333333
Crusader	Unknown	1914	Off Abrolhos	-28.16666667	113.3333333
Cumberland	Sailing vessel	1846	Abrolhos	-28.16666667	113.3333333
Curlew	Sailing vessel	1911	At Onslow, Monte Bellos Group	-20	115.1666667
Cutty Sark	Sailing vessel	1907	Bay of Rest, Exmouth	-22.25	114.1333333
Dampier	Trawler		Enderby Island, Dampier Archipelago	-20.52333333	116.2366667
Depuch Island inscriptions and graves			Depuch Island	-20.609894	117.721981
Don Joseph	Sailing vessel	1899	6.5 Kilometres North of Point Cloates	-22.61666667	113.6
Dot	Sailing vessel	1893	Shark Bay	-24.5	113
Eclipse	Sailing vessel	1907	Bay of Rest, Exmouth	-22.25	114.1333333
Eddystone	Twin screw steamer	1894	Depuch Island Passage, Ballia Balla	-20.6033	117.73494
Edina	Unknown	1921	Abrolhos Island	-28.16666667	113.3333333
Elizabeth	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Ellen	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Emlyn Castle	Unknown	1960		-21.78472167	114.165

218

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 915 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Pyrenees Facility Operations Environment Plan
Commonwealth Shipwrecks overlap

Vessel Name	Vessel Type	When Lost	Where Lost	Latitude	Longitude
Emma	Sailing vessel	1867	Coral Bay	-23.08255	113.7335
Era	Trawler	1928	Geraldton	-26.66666667	112
Eveline	Sailing vessel	1893	Shark Bay	-24.5	113
Fairy Queen	Sailing vessel	1875	Exmouth N W Cape	-21.81715	114.1891167
Fin	Single screw steamer	1923	Point Cloates, Fraser Island	-22.6476	113.6282667
Florence	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Flying Foam	Sailing vessel	1872	Abrolhos Area	-28.16666667	113.3333333
Fortesque Landing				-21.007733	116.096424
G.G.S.	Sailing vessel	1883	Pt Cloates	-22.55	113.5
Gem	Sailing vessel	1893	North West Cape	-21.61666667	113.9833333
Genesta	Unknown	1909	Off Dorre Island	-24.83333333	112.9333333
Gift	Sailing vessel	1898	Shark Bay Area	-24.25	112
Haw Kiet	Unknown	2003		-18.45816667	117.2583333
Hawk	Sailing vessel		Around 55 kilometres south of the Cape at Carbaddaman Passage	-22.45	113.73333
Hawk	Sailing vessel	1907	In Bay of Rest, Exmouth	-22.25	114.1333333
Helena Mena	Sailing vessel	1898	Dirk Hartog Island	-25.31666667	112.7833333
Hildas	Sailing vessel	1893	Shark Bay	-24.5	113
Idahlia	Sailing vessel	1898	Shark Bay, Willemann	-24.25	112
Iona	Sailing vessel	1923	Point Cloates, entering Black Rock Passage	-22.8	113.6333333
Ivy	Sailing vessel	1914	Off Abrolhos Islands	-28.16666667	113.3333333
Jane Bay One Unidentified	Unknown		Jane Bay	-22.732317	113.73212
Jane Bay Two Unidentified			Jane Bay, Point Cloates	-22.73785	113.739983
Jon Jim	Trawler	1961	Pelsaert Island, Wreck Pt	-28.986064	113.962254

318

Pyrenees Facility Operations Environment Plan
Commonwealth Shipwrecks overlap

Vessel Name	Vessel Type	When Lost	Where Lost	Latitude	Longitude
Judith Ann	Trawler	1972	Near Geraldton	-26.66666667	112
Julie Dawn	Trawler	1971	Near Geraldton	-26.66666667	112
Junee	Trawler	1967	Geraldton	-26.66666667	112
Just In Time	Sailing vessel	1898	Williemia	-24.25	112
Kadna	Unknown	1902		-17.96166667	112.2363833
Kapala	Unknown	1964	Exmouth Gulf	-21.75	114.0833333
Kiryo Maru	Trawler	1984	Cathedral Rocks, Rottnest Island	-32.020345	115.449514
Korean Star		1988	Cape Cuvier	-24.214021	113.419339
Korean Star MV	Motor vessel	1988	Cape Cuvier	-24.2	113.4166667
Kormoran HSK	Unknown	1941	150 miles of Carvarvon	-26.09705555	111.2243056
Lady Ann	Sailing vessel	1882	24 miles north of NW Cape	-21.4	114.2
Lamareaux	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Leave	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Lighter	Sailing vessel	1906	Off White Beach Landing, Dorre Island	-25.1	113.1
Lily Of The Lake	Sailing vessel	1875	Exmouth Gulf	-21.75	114.0833333
Lively	Sailing vessel	1810	Mermaid Reef, Rowley Shoals	-17.08968333	119.5915
Louisa	Sailing vessel	1893	Shark Bay	-24.5	113
Lowana	Trawler	1960	Wales Bay	-28.16666667	113.3333333
Mabel	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Macey's Wreck Unidentified			Mardie Station	-21.195834	115.847121
Magnolia	Sailing vessel	1938	Between Red Bluff and Gnarlaloo	-23.83333333	113.5166667
Maratta	Unknown	1905		-20.72783333	115.4261167
Marietta	Unknown	1905	Barrow Island	-20	115.1666667
Marten	Sailing vessel	1878	Pelsaert Island	-28.93687	113.969225

418

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 916 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Pyrenees Facility Operations Environment Plan
Commonwealth Shipwrecks overlap

Vessel Name	Vessel Type	When Lost	Where Lost	Latitude	Longitude
Marutta	Unknown	1905		-20.72783333	115.4261667
Mary B	Unknown	1920		-20.01916667	118.81
Matchless	Sailing vessel	1893	Shark Bay	-24.5	113
Mauds Landing				-23.113944	113.775461
May	Sailing vessel	1872	Geraldton	-26.66666667	112
McCormack		1989	N.E. tip of Eaglehawk Island West of Dampier,	-20.13666667	115.9533333
McDermott Derrick Barge No 20	Barge	1989	N.E. tip of Eaglehawk Island, Dampier Archipelago	-20.13666667	115.9533333
Mildura	Twin screw steamer	1907	North-West Cape	-21.784092	114.167735
Min Pin Liu No. 25 (Also Ming Pin Liu)	Unknown	1999	Cornelisse Shoal	-20.04138333	118.36805
Moyme	Trawler	1957	Geraldton	-26.66666667	112
Nellie	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Norwegian Bay Unidentified Barge	Barge		Off Norwegian Bay Whaling Station	-22.592436	113.670572
Norwegian Bay Whaling Station boat		1990	10 m N of whaling station jetty	-22.59274583	113.6715683
Occator	Sailing vessel	1856	Around 55 kilometres south of the Cape at Carbaddaman Passage	-22.41666667	113.6833333
Ocean Queen	Unknown	1925	Geraldton Harbour, Esplanade Jetty	-28.76666667	114.8
Olive	Sailing vessel	1916	Dorre Island, Carnarvon	-24.85	112.9166667
Olive	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Onslow Jetty				-21.631127	115.108788
Parks Luggier	Sailing vessel		Hermite Island, Montebello Islands	-20.477082	115.528518
Patch	Trawler	1963	Abrolhos Islands	-28.16666667	113.3333333
Patience	Trawler	1959	Geraldton	-26.66666667	112

5 | 8

Pyrenees Facility Operations Environment Plan
Commonwealth Shipwrecks overlap

Vessel Name	Vessel Type	When Lost	Where Lost	Latitude	Longitude
Patience	Sailing vessel	1930	Between Red Bluff and Cape Cuvier	-24	113.2
Pearl	Sailing vessel	1896	Exmouth Gulf, Meda Creek	-21.75	114.0833333
Pearl	Sailing vessel	1920	Off North Turtle Island	-19.90026667	118.8796333
Pearline	Sailing vessel	1893	Shark Bay	-24.5	113
Pelsart (Pelsaert)	Sailing vessel	1908	12 miles off Imperieuse Reef, Rowley Shoals	-17	118.75
Perentie	Unknown	1976	Barrow Island	-20.72783333	115.4261667
Perseverant's Boat	Unknown	1841	South of Java Head	-24.25	112
Perseverant's Boat	Unknown	1841		-24.25	112
Perth	Twin screw steamer	1887	Point Cloates	-22.69246667	113.6422667
Plym HMS	Frigate	1952		-20.40346667	115.5658333
Point Cloates Unidentified	Unknown		Near Correio da Azia site	-22.86343333	113.7506667
Port Hedland Jetty (now demolished)				-20.31665	118.57333
Prince Charlie	Sailing vessel	1850	Shark Bay	-24.5	113
Puffin	Unknown	1964	Near Geraldton	-26.66666667	112
Queen	Sailing vessel	1891	Off Point Cloates	-22.55	113.5
Raconteur ex-Nanango		1976	Bernier Island	-24.787144	113.16404
Rapid	Sailing vessel	1811	Ningaloo Reef	-22.739438	113.692643
Rose	Sailing vessel	1908	Ashburton	-21.58333333	114.8333333
Rosella	Sailing vessel	1928	Near Geraldton	-26.66666667	112
Rosslyn	Trawler	1966	Abrolhos Islands	-28.16666667	113.3333333
Ruby	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
S.S.S.	Unknown	1901	Off Point Cloates	-22.65	113.5833333
Sarah	Sailing vessel	1893	Shark Bay	-24.5	113
Scout	Sailing vessel	1918	Geraldton	-26.66666667	112

6 | 8

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 917 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Pyrenees Facility Operations Environment Plan
Commonwealth Shipwrecks overlap

Vessel Name	Vessel Type	When Lost	Where Lost	Latitude	Longitude
Sea Queen	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Seagull	Sailing vessel	1893	Shark Bay area	-24.25	112
See Taube	Unknown	1954	North-east of Rowley Shoals	-17	118.75
Shunsei Maru	Unknown	1931	Carbaddaman Passage, north of Point Cloates	-22.41666667	113.6833333
Sisters	Sailing vessel	1893	Shark Bay	-24.5	113
Smuggler	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Solveig	Sailing vessel	1903	Point Samson	-20.625525	117.197857
Star	Sailing vessel	1876	Shark Bay to Geraldton	-24.5	112
Star Of The North	Sailing vessel	1893	Shark Bay	-24.5	113
Stefano	Sailing vessel	1875	Point Cloates	-22.82688333	113.7211833
Stranger	Sailing vessel	1893	Shark Bay	-24.5	113
Strathmore	Sailing vessel	1870	Point Cloates	-22.55	113.5
Sydney HMAS	Cruiser	1941	113 n miles W of Steep Point	-26.24361111	111.2175
Tanami	Sailing vessel		Trial Rocks	-20.28333	115.36666
The Two Friends	Sailing vessel	1925	Off Dirk Hartog Island	-25.31666667	112.7833333
Torrens HMAS	Destroyer	1999		-31.78333333	114.7833333
Trial	Sailing vessel	1622	Trial Rocks	-20.28598333	115.3752333
Tropic Queen		1975		-20.43333333	115.5008333
Two Sons	Sailing vessel	1902	Shark Bay	-24.5	113
Unidentified Boat (2)	Unknown	1893	Shark Bay	-24.5	113
Unidentified Lighter 1	Unknown	1872	Chapman River	-28.76666667	114.6
Unidentified Lugger	Unknown	1893	Exmouth Gulf	-21.75	114.0833333
Unidentified Luggers (Various)	Unknown	1883	Shark Bay and Exmouth Gulf	-26.66666667	112
Unidentified Whaler	Unknown	1867	Abrolhos Islands S	-28.16666667	113.3333333

7 | 8

Pyrenees Facility Operations Environment Plan
Commonwealth Shipwrecks overlap

Vessel Name	Vessel Type	When Lost	Where Lost	Latitude	Longitude
Vergo	Sailing vessel	1893	Shark Bay area	-24.25	112
Veronica	Sailing vessel	1928	Sunday Island, Exmouth Gulf	-21.68333333	114.3833333
Vianen	Sailing vessel	1628	Barrow Island Area	-20	115.1666667
Viking	Trawler	1958	Horrock's Beach	-26.66666667	112
Vittoria	Unknown	1929	Dorre Island	-24.83333333	112.9333333
Wild Wave	Sailing vessel	1875	Exmouth Gulf	-21.75	114.0833333
Wild Wave (China)	Sailing vessel	1873	Monte Bello Island	-20	115.1666667
Wyndham	Sailing vessel	1910	Point Cloates	-22.55	113.5
Yule	Sailing vessel	1922	Oyster Inlet, Port Hedland	-20.34033333	118.4766667
Zeewijks Longboat	Boat	1727	North of Abrolhos	-28.16666667	113.3333333
Zelma	Unknown	1990	Dampier Archipelago	-20.37716667	116.8746667
Zuiddorp (Zuytdorp)	Sailing vessel	1712	North of Kalbarri	-27.186	113.936
Zvir	Twin screw steamer	1902	Point Cloates	-22.60916667	113.626

8 | 8

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 918 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

3.26 Updated Summary Information Sheet



Consultation Summary Information Sheet
Updated February 2025

Pyrenees Facility Operations Environment Plan

Carnarvon Basin, North-West Australia

Activity overview

The Pyrenees Facility Operations Environment Plan (EP) covers:

- Five-year revision.
- Continued operation of the Pyrenees Facility, including:
 - Routine oil production, crude oil offloading and associated activities.
 - Routine inspection, monitoring, maintenance and repair (IMMR) of the floating production, storage and offloading (FPSO) vessel and associated subsea infrastructure.
 - Disconnection and sail-away of the FPSO with the turret mooring and subsea infrastructure remaining in place.

Location

- In Commonwealth waters about 45 km north of Exmouth, Western Australia.
- A map showing the location of the activity is shown in **Figure 2**.

Water depth

- Approximately 180 m to 215 m.

Timing

- Production commenced 2010.
- Estimated end of field life is anticipated for 2035.

Duration

- Routine operations 24 hours a day, 365 days a year.
- IMMR activities take place as required.

Joint Venture

- Operator – Woodside Energy Ltd.
- Joint Venture – Santos WA PVG Pty Ltd, INPEX Alpha Ltd.

We want to hear from you

We want relevant persons whose functions, interests or activities may be affected by the proposed activity to have the opportunity to provide feedback.

Woodside must consult relevant persons when developing an EP to confirm current measures or identify additional measures, if any, which could lessen or avoid potential adverse effects of the proposed activity on the environment.

Woodside aims to ensure the proposed activity is consistent with the principles of ecologically sustainable development, by which the environmental impacts and risks of the activity are reduced to as low as reasonably practicable (ALARP) and to an acceptable level.

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by the activities under this EP, we want to hear from you by **Wednesday, 19 March 2025**.

feedback@woodside.com

Toll free: 1800 442 977

woodside.com/what-we-do/consultation-activities



Figure 1: Pyrenees FPSO.

Woodside Energy recognises Aboriginal and Torres Strait Islander peoples as Australia's First Peoples. We acknowledge their connection to land, waters and the environment and pay our respects to ancestors and Elders, past and present. We extend this recognition and respect to First Nations peoples and communities around the world.

Activity Location

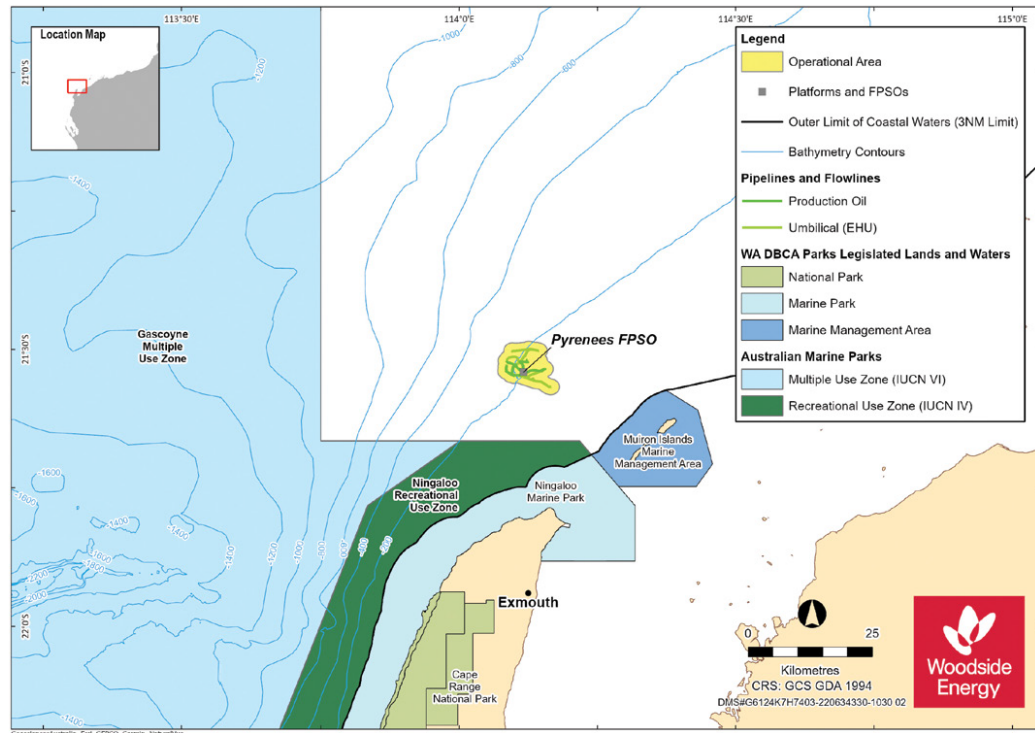


Figure 2. Pyrenees Facility Location and Operational Area.

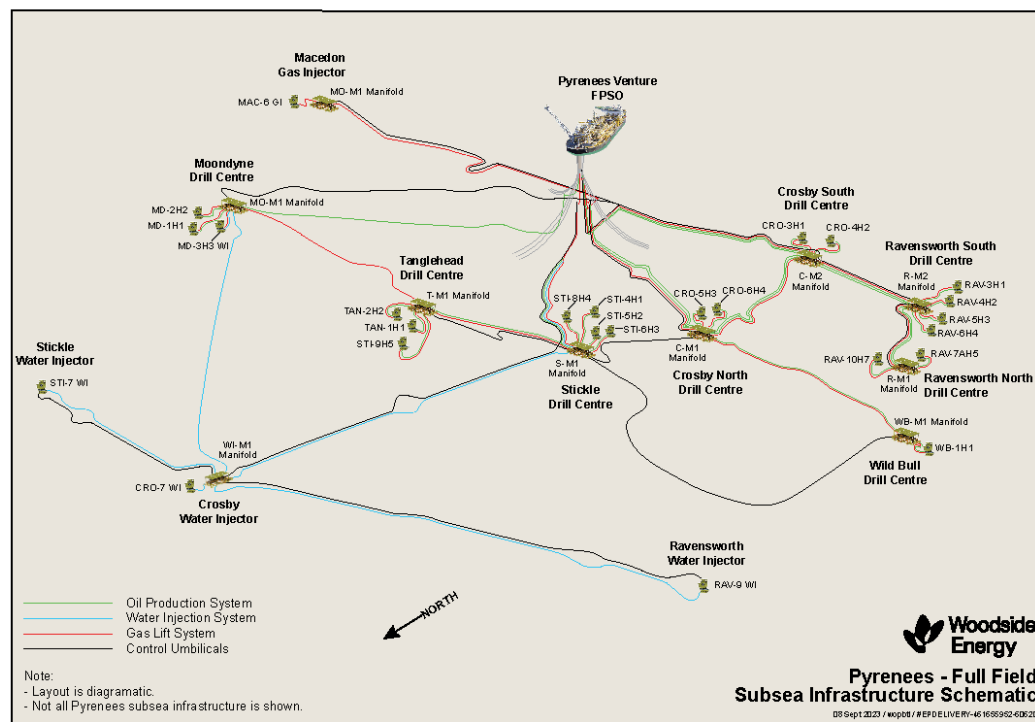


Figure 3. Overview of subsea infrastructure layout associated with the Pyrenees FPSO (not to scale).

2 Pyrenees Facility Operations Environment Plan | Updated February 2025

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 920 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Environment that may be affected (EMBA)

The EMBA is the largest spatial extent where the Pyrenees Facility Operations EP activities could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned and unplanned activities. For this EP, the EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA are loss of well containment and vessel collision. The EMBA is depicted in **Figure 4**.

The EMBA does not represent the extent of the predicted impact of the highly unlikely unplanned release of hydrocarbons. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, depending on the weather and ocean conditions at the time of the release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known at the time of the release. To learn more about an EMBA, please see the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) video on oil spill modelling on its website www.nopsema.gov.au.

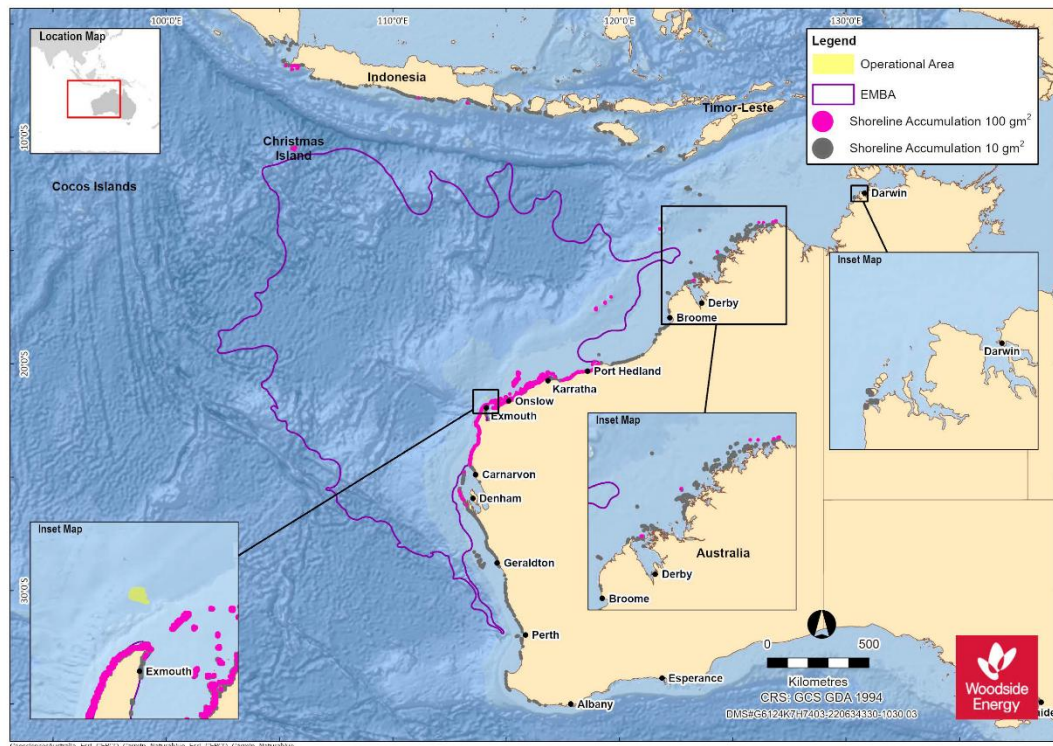


Figure 4. Updated Pyrenees FPSO Operations Environment that May Be Affected (EMBA) by an unplanned hydrocarbon release from an accident/incident during the Petroleum Activities Program.

Feedback

Woodside consults relevant persons in the course of preparing EPs to notify them of the activity and to obtain relevant feedback to inform its planning for proposed petroleum activities.

If you would like to comment on the proposed activities outlined in this information sheet, please contact Woodside before **Wednesday, 19 March 2025** via:

feedback@woodside.com
Toll free: 1800 442 977

You can subscribe on our website to receive Consultation Information Sheets for proposed activities:
[woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)

Please note that stakeholder feedback will be communicated to the NOPSEMA as required under legislation. Woodside will communicate any material changes to the proposed activity to affected relevant persons as relevant and appropriate.

Your feedback and our response will be included in our EP for the proposed activity, which will be submitted to NOPSEMA for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth) and support other regulatory processes associated with the planned activities (which may or may not be confidential).

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit:
[woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



4 Pyrenees Facility Operations Environment Plan | Updated February 2025

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 922 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

3.27 Email sent to Balanggarra Aboriginal Corporation – 17 February 2025

Hi [Individual 65]

Consultation Update – Pyrenees Facility Operations Environment Plan.

Woodside is emailing an activity update to Balanggarra Aboriginal Corporation regarding the Pyrenees Facility Operations (the activity) Environment Plan (EP).

This update is to inform you that Woodside has reviewed the activity's Environment that May Be Affected (EMBA). The modelling has determined that the EMBA has reduced in size/area and identified some additional shoreline accumulation in the northern Kimberley region and Northern Territory.

The attached Summary Consultation Information Sheet provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also attached a Consultation Information Sheet with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Previous consultation

Consultation for the Pyrenees Operations EP opened on 2 October 2023, when we provided Balanggarra Aboriginal Corporation the consultation information, and closed on 11 November 2023.

We also refer to correspondence emailed to you on 2 October 2023, 13 October 2023 and 2 November 2023, seeking your feedback on the Pyrenees Facility Operations EP and the opportunity to provide us with your cultural values. Additionally, correspondence was sent on 23 November 2023 and 23 January 2024 as part of Woodside's ongoing consultation with you. The Pyrenees Operations EP remains publicly available on NOPSEMA's website and is being assessed by NOPSEMA.

Next steps

Woodside will shortly resubmit the Pyrenees Facility Operations EP to NOPSEMA for further assessment. The EP will be substantively the same as that published on the website and will include relevant feedback obtained during consultation.

If there is additional information that you would like us to consider as part of this EP resubmission, please provide that information to us by no later than 19 March 2025. Feedback can be provided directly to me, by emailing feedback@woodside.com or by calling 1800 442 977.

Woodside manages gender restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide feedback directly to NOPSEMA, you can email communications@nopsema.gov.au or call (08) 6188 8700.

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 923 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please contact me if you have any further queries.

I am attending the Savanna Fire Forum in Darwin this week and if you or the Balanggarra rangers are attending, please let me know as I would like to meet and introduce myself.

Kind regards,

[Individual 29]

[Attachments: Consultation Information Sheet, Summary Consultation Information Sheet]

4. CONSULTATION UPDATE (FOLLOW-UP) (MARCH 2025)

- 4.1 Email sent to Northern Territory Seafood Council; Email sent to Department of Industry, Tourism and Trade (DITT) –Mining and Energy; Department of Industry, Tourism and Trade (DITT) – NT Fisheries; Shire of Derby/West Kimberley; Derby Chamber of Commerce and Industry; East Kimberley Chamber of Commerce and Industry; Shire of Harvey; Shire of Wyndham/East Kimberley; Department of Environment, Parks and Water Security (DEPWS); Northern Territory Environment Protection Agency (NTEPA); Northern Prawn Fishery individual licence holders; Department of Infrastructure, Planning and Logistics (DIPL) – Marine Safety; Department of Industry, Tourism and Trade (DITT) – Aquatic Biosecurity; Director of National Parks (DNP); Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries; Department of Defence (DoD); Commonwealth Fisheries Association (CFA), Northern Prawn Fishery Industry Pty Ltd (10 March 2025)**

Woodside previously consulted you on its plans to submit the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L. Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

Additional information on the EP is provided in the email below and in the Consultation Information Sheet, which is available on Woodside's [website](#).

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at feedback@woodside.com, via phone call at 1800 442 977 or via the feedback form on our [website](#) by **19 March 2025**.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 924 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the EP made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

4.2 Email sent to Department of Foreign Affairs and Trade (DFAT); Australian Maritime Safety Authority (AMSA) – Marine Safety; Australian Hydrographic Office (AHO); Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity; Amateur Fishermen's Association of the Northern Territory; Department of Transport (DoT); Northern Territory Guided Fishing Industry Association (NTGFIA); Australian Maritime Safety Authority (AMSA) – Marine Pollution; Department of Planning, Lands and Heritage (DPLH); Western Australian Museum; Department of Climate Change, Energy, the Environment and Water (DCCEEW) (11 March 2025)

Woodside previously consulted you on its plans to submit the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L. Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

Additional information on the EP is provided in the email below and in the Consultation Information Sheet, which is available on Woodside's [website](#).

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at feedback@woodside.com, via phone call at 1800 442 977 or via the feedback form on our [website](#) by **20 March 2025**.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 925 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

You may request that particular information you provide during consultation not be published in the EP made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

4.3 Email sent to Western Australian Fishing Industry Council (WAFIC); Department of Primary Industries and Regional Development (DPIRD); Australian Border Force (ABF) (11 March 2025)

Woodside previously consulted you on its plans to submit the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L. Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

Additional information on the EP is provided in the email below and in the Consultation Information Sheet, which is available on Woodside's [website](#).

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at feedback@woodside.com, via phone call at 1800 442 977 or via the feedback form on our [website](#) by **22 March 2025**.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the EP made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 926 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

4.4 Email sent to Department of Biodiversity, Conservation and Attractions (DBCA) (11 March 2025)

Woodside previously consulted you on its plans to submit the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L. Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

Additional information on the EP is provided in the email below and in the Consultation Information Sheet, which is available on Woodside's [website](#).

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at feedback@woodside.com, via phone call at 1800 442 977 or via the feedback form on our [website](#) by **24 March 2025**.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the EP made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

4.5 Email sent to Department of Energy, Mines, Industry Regulation and Safety (DEMIRS); Department of Industry, Science and Resources (DISR) (14 March 2025)

Woodside previously consulted you on its plans to submit the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L. Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 927 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Additional information on the EP is provided in the email below and in the Consultation Information Sheet, which is available on Woodside's website.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at feedback@woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by 20 March 2025.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the EP made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our website.

Kind regards,
Woodside Energy Feedback

4.6 Email sent to Shire of Chapman Valley; Shire of Waroona (19 March 2025)

Woodside previously consulted you on its plans to submit the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L. Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

Additional information on the EP is provided in the email below and in the Consultation Information Sheet, which is available on Woodside's [website](#).

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at feedback@woodside.com, via phone call at 1800 442 977 or via the feedback form on our [website](#) by 28 March 2025.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations*

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 928 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the EP made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,
Woodside Energy Feedback

4.7 Email sent to Kimberley Ports Authority (19 March 2025)

Woodside previously consulted you on its plans to submit the Pyrenees Facility Operations Environment Plan (EP).

The Pyrenees floating production, storage and offloading (FPSO) facility and associated subsea infrastructure are located in Commonwealth waters approximately 45 km north of Exmouth, Western Australia, within Production Licences WA-42-L and WA-43-L. Woodside plans to continue to produce crude oil at the Pyrenees facility. Operations began in 2010.

Additional information on the EP is provided in the email below and in the Consultation Information Sheet, which is available on Woodside's [website](#).

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at feedback@woodside.com, via phone call at 1800 442 977 or via the feedback form on our [website](#) by **29 March 2025**.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the EP made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our [website](#).

Kind regards,

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 929 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside Energy Feedback

5. NEWSPAPER ADVERTISEMENTS, SOCIAL MEDIA CAMPAIGNS, COMMUNITY INFORMATION SESSIONS

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 930 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1 Newspaper advertisements – EP consultation (September 2023)

5.1.1 The Australian (13 September 2023)

8 THE AUSTRALIAN
WEDNESDAY, SEPTEMBER 13, 2023
theaustralian.com.au

WORLD

Security alert: UK puts China spies on notice

STEVEN DWYER
BILLY KENNER
LONDON

China faces being formally designated a threat to Britain under security laws after a Tory parliamentary researcher was arrested on suspicion of spying.

Under pressure from China hawks, Deputy Prime Minister Oliver Dowden told parliament on Monday that there was a strong case for including China in the "enhanced" tier of the Foreign Influence Registration Scheme, whereby China would be designated as a "potential risk to UK safety or interests".

Anyone working "at the direction" of China or state-linked Chinese companies would be required to register with the government and disclose their activities. Failure to do so would be a criminal offence carrying a five-year jail sentence.

Chris Cash, the director of an influential group on Beijing co-founded by Security Minister Tom Tugendhat, was arrested in March on suspicion of breaching the Official Secrets Act. He was also employed as a researcher by Alicka Karam, chairwoman of the Commons foreign affairs committee.

His arrest, reported for the first time at the weekend, has intensified debate on whether Britain needs to be more robust in its dealings with Beijing.

Mr Cash, who studied in China before working in Westminster, released a statement on Monday insisting he was "completely innocent".

He said the allegations were "against everything I stand for", adding that he had spent his career "trying to educate others about the challenges and threats presented by the Chinese Communist Party". China called the claims malicious slander.

Mr Cash, 28, and a man in his 30s who was arrested at the same time are on police bail until next month.



Chris Cash ... allegations 'against everything I stand for'



Xu Yanjun ... lured to Belgium and arrested



Oliver Dowden: 'Absolutely clear'



Rishi Sunak: 'Emphatic'

Prime Minister Rishi Sunak said on Monday that he had been "emphatic" with Chinese Premier Li Qiang that the government would never tolerate actions that undermined British democracy.

Mr Sunak, who spoke to Mr Li at the G20 meeting in India at the weekend, said he was clear that the "sanctity" of parliament must be protected.

Mark Sabah, of the Committee for Freedom in Hong Kong Foundation, told Times Radio he had met Mr Cash several times.

"He was an important cog in the China aspect ... in Westminster," he said.

Calling the allegations terrifying, he added: "I have no evidence or proof whatsoever that he did anything wrong."

"However, when somebody is exposed as a potential spy, it's inevitable that people immediately get afraid ... they themselves may be in danger."

A succession of Tory MPs accused the government of inaction over China.

Former prime minister Liz Truss described China as the largest threat to Britain and the world.

West spooked into action to thwart Beijing espionage

RICHARD SPENCER
ANALYSIS

China has been trying to "catch up" with the West, using all means within its power to do so for decades.

Some methods are legitimate, of course, such as the nation's economic growth.

At the other end of the scale, Beijing, Washington and London have a display of old-fashioned spies against each other for years.

However, in recent years Western nations have begun to take measures against a range of "grey" tactics, from industrial espionage to the "masquerading" of public discussion of issues such as Taiwan or human rights.

A year ago, MI6 director-general Ken McCallum and FBI director Christopher Wray gave an unprecedented joint address to business leaders and academics, saying they needed to join forces to prevent China undermining the West's security and democratic values.

Microsoft gave a specific example in May that a state-sponsored Chinese hacking group had compromised critical US infrastructure.

Cyber espionage groups run by the People's Liberation Army are suspected of targeting civilian companies, including Google, as far back as 2002. Google and other firms supplying software to companies and government departments provide a "back door" into their computer systems.

There is wider concern about China gaining access to political "influencers", using Chinese students or even unwitting spies to spread out discussion of sensitive issues on campuses.

Britain's National Security Act, which became law in July, introduced a foreign influence registration scheme - based on laws passed in Australia in 2018 - to combat the growing influence of China. Lobbyists working three on behalf of foreign states are required to register with the government within 14 days of undertaking their activities or face prison sentences of up to five years.

The US is ahead of Britain in several ways. It has named federal employees from downloading TikTok on government-issued electronic devices. And 28 states have banned officials from using TikTok at all.

Former MI6 chief Sir Alex Younger also said China should be put on the enhanced list.

"Sometimes we have to be absolutely prepared to confront it when we believe that our security interests are threatened," he told BBC Radio 4.

Home Secretary Suella Braverman has pushed for China to go on the enhanced list but there has been resistance from the Treasury and elsewhere in Whitehall because of the potential impact on trade.

The dispatch box until we have gone

The buying of agricultural land in the US by Chinese companies has stirred fears it may be being used by the Chinese government to spy on US military installations. Last week, China was accused of sending citizens posing as tourists to test security at military installations by trying to enter them "by mistake".

A striking case was that of an expert in advanced engineering working for American giant GE, who was asked to lecture at a Chinese university in 2007. It was only later the FBI told him he had unwittingly allowed himself to become a Chinese spy. The man who invited him was not a university representative but an agent of Chinese State Security Ministry Xu Yanjun, who plugged him for information. The FBI "turned" the engineer, using him to feed information to the Chinese and, eventually, lure Xu to Belgium, where he was arrested and extradited.

After his trial, Xu was shown to have also targeted French aviation experts and recruited a Chinese student who managed to eavesdrop on the US Army Reserve. Sentenced to 20 years' jail, it was a rare case of a spy master, not just a spy, being jailed.

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

THE TIMES

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFF LOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

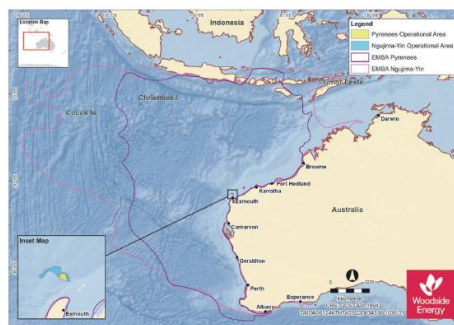
We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

The EMBA is the largest area where activities could potentially have a direct or indirect impact. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull. The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at: www.woodside.com/sustainability/consultation-activities.

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 931 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.2 The West Australian (13 September 2023)

The West Australian
Wednesday, September 13, 2023

NEWS 17



The family of police officer Cameron Fyfe at the inquest. Picture: Daniel Wilkins

Power pole fire arrest pair in court

Two men are facing charges for allegedly causing a Western Power pole to go up in flames.

Detectives from WA Police's State security investigation group recently charged the pair, aged 32 and 21, after damage was caused to electrical wiring on a power pole, causing it to set fire, in May.

The fire caused extensive damage to the pole and the wiring.

As part of the investigation, detectives searched a property in Banksia Grove last month.

The two men, both of Banksia Grove, were subsequently charged with a count of unlawful damage each.

They are due to appear in Jondalup Magistrates Court on October 2.

The incident in May happened after an unrelated incident involving a high-voltage transmission tower, also in Pinjar, which police believe was knocked down in an act of vandalism on April 20.

Police believe those involved may have been dressed as workers or technicians so as to not draw attention to themselves.

"They may have been dressed as to not raise suspicion," Det-Insp. Gary Butler said in April. Police continue to appeal for information.

ent former partner that he thought about using his gun to shoot himself but that he could never do that because he would have to go to work to get it.

A couple of months later, he joined the traffic motorcycle group based in Midland and was allowed to take home his bike and his gun. The inquest was told his superior, Sen. Sgt Simon Baxter, gave Const. Fyfe verbal approval to store the weapon at home after he provided an email with photographs of his safe.

However, WA Police policy was that an inspection should be carried out. Sen. Sgt Baxter was investigated over the technical breach but was exonerated by internal affairs.

A month after he received approval, Const. Fyfe took his own life after a night of heavy drinking. The inquest was told he had messaged and called his family and friends just before he shot himself.

His devastated father made the heartbreaking discovery the following day.

Det-Const. Greg Holt, who carried out an investigation into Const. Fyfe's death, said it was clear the young officer had hidden his mental health issues from the force.

He said officers he spoke to were not aware of the severity of Const. Fyfe's depression or his comments about suicide.

He also said his police file did not contain any evidence that he had sought internal psychological counselling services.

When asked if it appeared he kept his mental health strug-

gles hidden because of fears he would be stood down from operational duties, Det-Const. Holt said it did. "I think people have concerns others will find out," he said.

Det-Sen. Sgt Glenn Swannell testified there was stigma about seeking help from the mental health services provided by police. However he was not aware of any police-employed psychologist betraying the confidence of an individual.

Bluehope.org.au
Lifeline 13 11 14

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the **Ngulima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations**.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngulima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngulima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngulima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngulima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

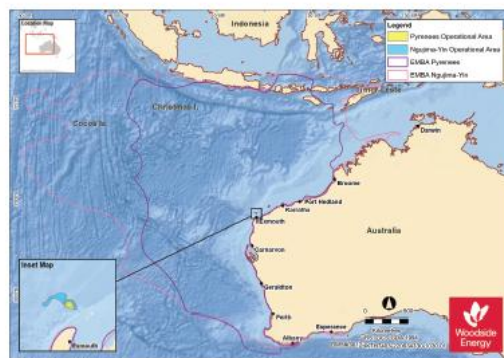
The environment that may be affected (EMBA)

The EMBA is the largest area where activities could potentially have a direct or indirect impact. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environmental Plans, is determined by modeling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by **Friday, 27 October 2023** to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

[woodside.com](https://www.woodside.com)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 932 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.3 The NT News (13 September 2023)

Wednesday September 13, 2023 | NT News

NEWS 07

Cops have to sleep in swags

Facilities crude at West Daly

Annabel Bowles and Zizi Averill

Northern Territory police have been sleeping in swags while deployed to the remote West Daly region as part of ongoing efforts to quell years of gang violence and unrest.

Police Commissioner Michael Murphy recently revealed emergency response groups had been asked to camp in Peppimenarti, a community about 330km from Darwin. "At the moment, I've got police officers who go out there and actually stay for six weeks to three months," Mr Murphy said on Friday.

"And the task force operators, they take their swags out with them."

"They don't look for comfort too much."

Mr Murphy visited the troubled town last week as part of an increased police presence which led to the arrest of 10 people.

Community members said the Peppimenarti police sta-



Police Commissioner Michael Murphy visited the troubled Peppimenarti community last week; (Inset) a member of Peppimenarti's notorious Jovi Boys gang. Main picture: Pema Tamang Pakhrin. Inset: Supplied

tion had been broken into six times in the past year.

NT Police Association president Nathan Finn said the police compound in nearby Wadeye had also been repeatedly broken into, "with (alleged) offenders stealing impounded cars and smashing through the perimeter fence on a number of occasions".

He said the issue of police sleeping in swags was not isolated to Peppimenarti and

something the union had been pushing the NT government and senior police executive to address "for years".

"This is the reality for police sent to Peppimenarti to support the two officers permanently stationed there," he said.

"There are many remote stations where relieving members receive a camping allowance to sleep in swags, in the absence of suitable accommodation."

Mr Finn described the Peppimenarti station as a "rusting, rotting shipping container" left over from the Intervention era.

"(It's) totally lacking adequate security measures to protect our members," he said.

"What has gone wrong with a community when offenders think it's acceptable to break into and damage a police compound – where members and their families live?"

Mr Finn said police were

"regularly attacked" with axes, machetes, spears and rocks – not just in the West Daly region but across the Territory.

Police Minister Kate Worren was contacted for comment but a government spokesman responded, saying a \$19m new station for Peppimenarti was progressing.

"The new Peppimenarti permanent police complex will include a new contemporary police station, detention facili-

ties, government employee housing and visiting officers' quarters to support a permanent police presence in Peppimenarti," he said.

"Discussions are well underway between the NT government and land council to identify an appropriate site for the new station."

"Following the identification of a site, work on design and construction processes can then begin."

"There is currently a review into police resourcing underway which includes assessing staffing at remote stations."

Mr Finn said while the new station would be welcomed, construction was not expected to start until the second half of next year.

"If (the) government considered remote policing investment a priority, it would have built the Peppimenarti complex years ago, instead of spending \$13m on a police station in the Chief Minister's electorate that is nothing more than glorified office space, with no frontline response capabilities," he said.

NT Police has previously refused to confirm any details about break-ins at the Peppimenarti police compound and when asked again on Tuesday, a spokeswoman said they would "aim" to respond later in the week.

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

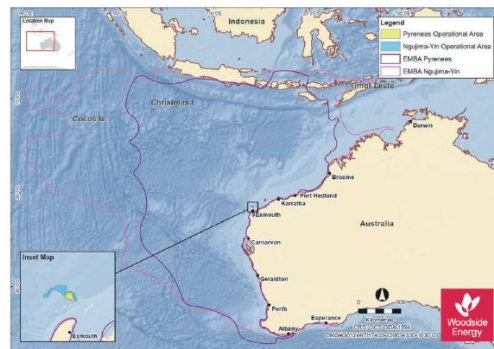
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environmental Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at: www.woodside.com/sustainability/consultation-activities.

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977
woodside.com



V1 - NTNE012010A

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 933 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.4 Pilbara News (13 September 2023)

Pilbara NEWS
Wednesday, September 13, 2023

Pilbaranews.com.au

NEWS 9

Indonesia lifts live cattle ban

KIMBERLEY CAINES

Indonesia has resumed imports of live cattle from WA and other parts of the country — ending more than a month of trade suspensions over fears of lumpy skin disease.

Livestock producers and exporters in WA can again start sending their live cattle to the nation's northern neighbour as of Saturday, with the ban on seven yards — three from the State — being lifted with immediate effect.

Australian and Indonesian officials reached the agreement following a week of meetings in Jakarta to come up with a resolution.

Acting chief veterinary officer Dr Beth Cookson led the discussions and had to satisfy Indonesia that Australia is lumpy skin disease-free.

Prime Minister Anthony Albanese spoke directly with Indonesian President Joko Widodo about the matter while in Jakarta on Thursday — as did Foreign Minister Penny Wong with her counterpart.

Mr Albanese thanked the ministers, departmental staff and officials and technical experts who worked for the positive outcome.

"I am delighted that following the bilateral meeting Minister Wong and I had with President Widodo earlier this week at the East Asia Summit, Indonesia will lift its suspension of Australian live cattle and buffalo exports," he said on Saturday.

"I thank President Widodo and



Indonesia has resumed imports of live cattle from WA and other parts of the country. Picture: Petermooy

his officials for working to resolve this issue."

The Australian Livestock Exporters' Council welcomed the resumption of trade with relief, noting cattle trade had been longstanding between the two nations.

"Indonesia is Australia's largest market for cattle and Indonesian families rely on Australian cattle

for a consistent supply of high-quality affordable beef, so a swift, unencumbered return to trade was always in the interests of both countries," ALEC chair David Galvin said.

"The trade is a longstanding one that benefits both of us and I firmly believe that strong relationship meant a mutually beneficial

solution would always be found."

Agriculture Minister Murray Watt said Saturday's announcement was "a testament to our calm and considered approach in response to this issue". "We have always maintained that Australia is free of lumpy skin disease, demonstrated by the results of extensive testing undertaken across

northern Australia," he said.

Senator Watt told reporters in Brisbane on Saturday surveillance measures for lumpy skin disease had been placed on Australia and that a "delegation of Indonesian quarantine officials" would land in northern Australia in coming weeks so they can "physically inspect the premises involved".

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

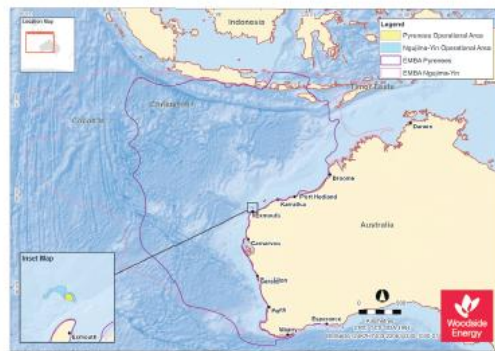
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

[woodside.com](https://www.woodside.com)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 934 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.1.5 North West Telegraph (13 September 2023)

NORTH WEST Telegraph
Wednesday, September 13, 2023

©northwesttelegraph.com.au

NEWS 9

Indonesia lifts live cattle ban

KIMBERLEY CAINES

Indonesia has resumed imports of live cattle from WA and other parts of the country — ending more than a month of trade suspensions over fears of lumpy skin disease.

Livestock producers and exporters in WA can again start sending their live cattle to the nation's northern neighbour as of Saturday, with the ban on seven yards — three from the State — being lifted with immediate effect.

Australian and Indonesian officials reached the agreement following a week of meetings in Jakarta to come up with a resolution.

Acting chief veterinary officer Dr Beth Cookson led the discussions and had to satisfy Indonesia that Australia is lumpy skin disease-free.

Prime Minister Anthony Albanese spoke directly with Indonesian President Joko Widodo about the matter while in Jakarta on Thursday — as did Foreign Minister Penny Wong with her counterpart.

Mr Albanese thanked the ministers, departmental staff and officials and technical experts who worked for the positive outcome.

"I am delighted that following the bilateral meeting Minister Wong and I had with President Widodo earlier this week at the East Asia Summit, Indonesia will lift its suspension of Australian live cattle and buffalo exports," he said on Saturday.

"I thank President Widodo and



Indonesia has resumed imports of live cattle from WA and other parts of the country. Picture: Petermooy

his officials for working to resolve this issue."

The Australian Livestock Exporters' Council welcomed the resumption of trade with relief, noting cattle trade had been long-standing between the two nations.

"Indonesia is Australia's largest market for cattle and Indonesian families rely on Australian cattle

for a consistent supply of high-quality affordable beef, so a swift, unencumbered return to trade was always in the interests of both countries," ALEC chair David Galvin said.

"The trade is a longstanding one that benefits both of us and I firmly believe that strong relationship meant a mutually beneficial

solution would always be found."

Agriculture Minister Murray Watt said Saturday's announcement was "a testament to our calm and considered approach in response to this issue". "We have always maintained that Australia is free of lumpy skin disease, demonstrated by the results of extensive testing undertaken across

northern Australia," he said.

Senator Watt told reporters in Brisbane on Saturday surveillance measures for lumpy skin disease had been placed on Australia and that a "delegation of Indonesian quarantine officials" would land in northern Australia in coming weeks so they can "physically inspect the premises involved".

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

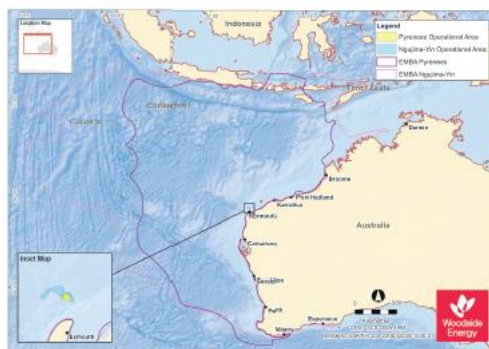
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by **Friday, 27 October 2023** to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 935 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.6 Midwest Times (13 September 2023)

Times
Wednesday, September 13, 2023

midwesttimes.com.au

NEWS 15

candidates for elections



Carnarvon shire president hopeful
Paul Kelly.



Exmouth shire president candidate
Matthew Nikkula.

from 2017-2021, when the council voted Cr Allston into the top role.

Three candidates for three vacancies have been elected unopposed and all are newcomers to the council — Todd Bennett, Kai Broedner, and Kristy Devereux.

Cr's Heather Lake and Mark Lucas, whose terms expire next month, are not contesting their positions.

Three candidates for four vacancies have been elected unopposed in Three Springs, including deputy president Christopher Connaughton, and Crs Julia Ennor and Nadine Eva.

In Shark Bay, four candidates have filled all the vacancies and

been elected unopposed — Shire president Cheryl Cowell and Crs Greg Ridley, Mark Smith and Peter Stubbsfield.

Out of three vacancies in Yalgoo, only one has been filled, by Cr Raul Valenzuela.

According to the Australian Electoral Commission, if there are not enough nominations to fill vacancies, an extraordinary election must be held at a later date.

If no nominations are made, the council may appoint someone to the role, permitted they are eligible and willing to accept it.

Local government elections will be held on Saturday, October 21.



Carnarvon Shire president Eddie Smith. Picture: Jamie Thanoo

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

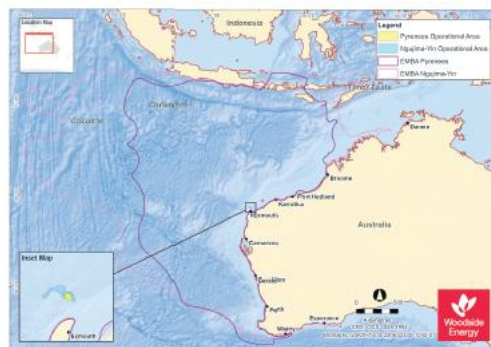
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environmental Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by **Friday, 27 October 2023** to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 936 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.7 Manjimup- Bridgetown Times (13 September 2023)

Manjimup-Bridgetown Times
Wednesday, September 13, 2023

Ombtimes.com.au

NEWS 7

Avocado orchard part of study

MELISSA PEDELT

A Pemberton avocado orchard is one of three involved in a national research project designed to help improve the robustness of avocados.

The national project will develop tools to guide calcium applications

to help deliver the best-quality avocados, boosting orchard potential and growers' business resilience and profitability.

The Department of Primary Industries and Regional Development is supporting the three-year Queensland Department of Agriculture and Fisheries project to in-

crease fruit quality, funded by Hort Innovation's Avocado Fund.

Research scientist Declan McCauley said the department was now in the second year of the project, exploring several options to refine calcium applications to optimise fruit quality.

"There seems to be a 12-week

window after flowering where applying calcium can improve the robustness of the fruit," Mr McCauley said.

"The department is doing trials with three commercial Hass avocado orchards at Pemberton, Busselton and Carabooda to evaluate various rates and timing of calci-

um applications to improve fruit robustness.

The first harvest from the Carabooda site showed variability in fruit robustness between trees, suggesting variability between trees may be a driver of whether fruit robustness is adequate or not.



DPIRD research scientist Declan McCauley is working on a national project to improve the robustness of avocados.

ORRVALE

**POLL
DORSET
STUD**

ASBV'S
AVAILABLE
BRUCELLOSIS
ACCREDITED

OFFERING 85 RAMS

at the Kojonup Breeders SSS Ram Sale

Kojonup Showgrounds
on Wednesday 4th October.
Commencing at 1pm.
Inspection from 10am.

Enquiries to
Felicity Hallett 0429 323 099.

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year extension to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

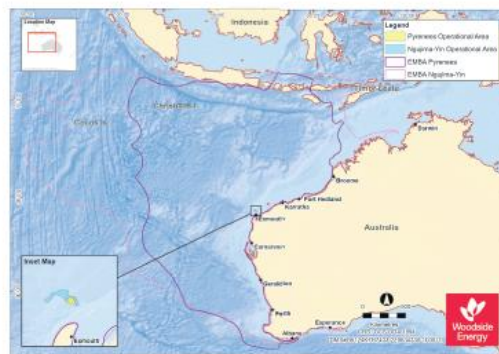
The environment that may be affected (EMBA)

The EMBA is the largest area where activities could potentially have a direct or indirect impact. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The FMRA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 937 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.8 Kalgoorlie Miner (13 September 2023)

kalminer.com.au
Wednesday, September 13, 2023

NEWS 5

Shock at abattoir's closure

AIDAN SMITH

The phone is dead, the doors are closed, and Esperance livestock producers are wondering what to do with 60,000 lambs after Minerva Foods Australia suddenly halted operations at its Shark Lake abattoir to undertake "a review of operations".

ASHEEP grower group president and Scadden farmer David Vandenberghe said while MFA chief executive Iain Mars was undertaking a review "to fully analyse what further investment is needed" in the meat processing plant, he doubted it would reopen.

"It certainly makes it difficult for producers who have been battling all year to get sheep processed," Mr Vandenberghe said.

"It takes whatever they kill each week out of the system, and producers who have old-season lambs booked in now have to find alternative arrangements."

Mr Vandenberghe said producers found WAMMO at Katanning was "booked out" and they had had to freight sheep to V&V Walsh at Bunbury, pushing up transport costs by \$5-\$7 per head.

Salmon Gums mixed farmer Greg Kenney said he had 500 lambs scheduled for processing at the facility next week and would have to "hold them on-farm" through the summer because.

He feared by the time he found alternative processing, they would have become hoggets, worth \$60 per head less.

"At least we have sufficient feed

The Shark Lake abattoir has closed.



and water on hand to carry them through," Mr Kenney said.

"We'll also be able to shear them as they'll have about eight months wool by then."

Mr Kenney said the sudden decision by MFA would remove much-needed "cash flow" from his normal spring operation.

He didn't expect the abattoir to reopen, but said "at least" MFA had

invested money into it for a new owner to take over and open the doors immediately.

Mr Mars closed the plant on September 11, about 14 months after opening it as part of a joint venture with the Saudi Agricultural and Livestock Investment Company, which was a surprise to its 150 employees as well as WA suppliers. He said staff would be rede-

ployed to other facilities within the MFA group where possible, with "a small number taking up redundancies".

The South American-owned MFA is expected to fulfil all existing meat orders through its operations at the Great Eastern Abattoir at Tammin, and Colac in Victoria.

The Esperance facility had the

capacity to process about 9000 lambs a week, while 5000 head could also be processed at Tammin, with 90 per cent of the total product exported mostly to the Middle East.

Pastoralists and Graziers Association of WA Livestock Committee chair and Eneabba sheep producer Chris Patmore said the MFA decision highlighted how difficult it was to operate an abattoir.

"It's disappointing to see a reduction in sheep processing in WA," Mr Patmore said.

"It's not an easy business to be in."

"Hopefully it is a temporary situation and not a permanent closure."

Mr Patmore said the WA sheep industry needed "all the competition it could get" within the processing sector, especially at a time when the Federal Government was working to phase out live sheep exports.

MFA originally sought to invest \$50 million in the WA processing sector to boost its Australian operations, mainly because of the presence of the Saudi Agricultural Livestock Investment Company, which purchased a 211,000ha portfolio of farmland from John Nicoletti in 2019.

SALIC operates under the Merredin Farms brand and would sell lambs to MFA as part of the arrangement.

MFA is the second South American entity after JBS to invest in Australian meat processing.

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

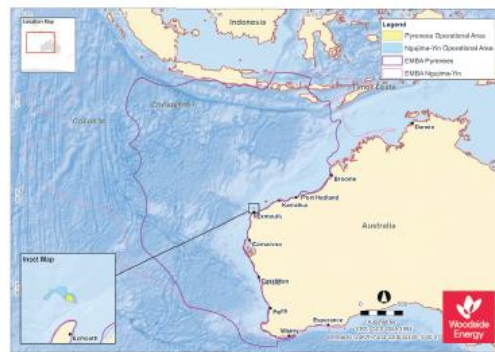
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 938 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.9 Broome Advertiser (14 September 2023)

12 NEWS

broomeadvertiser.com.au

Thursday, September 14, 2023

Fight for Indigenous language

SARAH CRAWFORD

It's morning tea at the Kimberley Language Resource Centre in Halls Creek and five-year-old Matthew Henry is more interested in the Tim Tams on the table than his aunties' conversation in the local language of Jaru.

In his community of Kundat Djaru, Ringer Soak, 170km southeast of Halls Creek, Jaru is spoken at home and taught at school so the children are proficient in the local language.

However, KLRC project and office co-ordinator, Jacqueline Cox, can see some of the dozens of languages spoken across the Kimberley getting "watered down due to the two different worlds," that young Aboriginal people live in.

"Our old people would speak fluent language but over the years it is breaking down," Ms Cox said.

"When we go back to community we have to speak our native, natural tongue and then we have to switch when we come back into the Western world. So because of that, our old people speak fluent language, whereas we only pick up bits and pieces of it."

The KLRC is working to keep native tongues strong through their State of Language Continuation in the Kimberley project. Part of the project involves surveying 250 people to find out which Kimberley languages are thriving, which ones are "sleeping," and what needs to be done to keep people speaking them.

There are 47 known languages from the Kimberley. Some lan-



The Kimberley Language Resource Centre is surveying people in the East Kimberley to try to find out which languages are still alive and which ones are "sleeping." Local ladies Judy Tchooga, Fiona Macale, Pauline Mandijarra, Clara Yundi, Mary Seela, Barbara Seela and Florence Long. Picture: Jackson Findell

guages, such as Walmajarri, south of Fitzroy Crossing, and Kukatja, around Lake Gregory, are strong and have more than 1000 speakers.

Other languages such as Miwa, Wila Wila and Gurwaj, once used in the north of the Kimberley, have had no speakers in living memory.

Survey leader Rowan James-Albert said his field research so far around Halls Creek showed the local language of Jaru to be strong.

"The number of people I have

spoken to here, there are a good amount of Jaru speakers, they do speak fluently, and they have not lost their language," he said.

Mr James-Albert is a Bardi speaker from Lombadina on the Dampier Peninsula.

He said in the West Kimberley the local languages were not as strong as in the East Kimberley.

"We are a bit more half and half, but there are language revival programs, just enough to keep the language alive," he said.

At the centre this morning Mr James-Albert is interviewing Halls Creek men, Stewart Moreton, who speaks Nyinnin Jaru, Eric Leeria, who speaks Guniyandi and Tony Chungulla of Billiluna, who speaks Walmajarri.

Mr Moreton, 81, an old stockman, said the traditional Nyinnin Jaru he spoke as a young person was now changing.

"They are losing it a little but we want to try to get that thing back before the older people go. People

here are real law people we want to keep their law strong," he said.

Ms Cox said despite the encroachment of English she was confident Kimberley languages would be spoken by future generations.

"Teaching the young people to continue language is the main importance of the language centre because language is a part of their culture. If they lose their language they will lose their culture," she said.

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

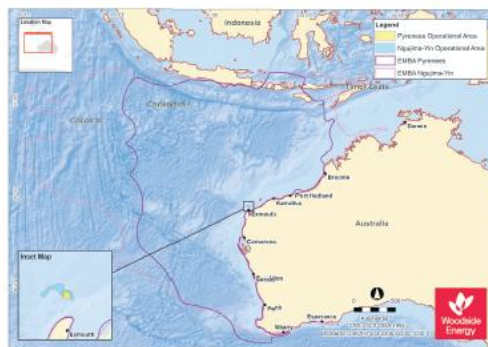
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by **Friday, 27 October 2023** to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at: www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977
woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 939 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.10 South Western Times (14 September 2023)

8 NEWS

swtimes.com.au

South Western Times
Thursday, September 14, 2023

Councillor protests hub expense

Community Centre to cost \$780,000 a year
SEAN VAN DER WIELEN

A Capel Shire councillor has argued she "in good conscience" cannot vote to progress plans to build a \$10.9m community hub in Dalzellup after running costs for the facility were estimated at \$780,000 per year.

But Shire president Doug Kitchen has claimed the figure is a "high-level" guess and the council already spent nearly half of that amount on services for the growing community.

The Dalzellup Multipurpose Community and Youth Centre is set to be the heart of the Shire's presence in the area and will include a digital technology hub, new library and expanded council services.

Cr Kaara Andrews questioned the estimated \$780,000 a year cost of running the facility and said she could not "in good conscience" vote for any items to do with the centre until more community consultation was held.

"Before we go much further, we have to have a really serious conversation about what it's going to cost us a year to run this and actually have a conversation with the community about whether or not they consider this a worthwhile project to be putting that kind of money into year-on-year for the next 25 years," she said.

"It's not our money, it's their money and there needs to be a hell



An artist's impression of the Dalzellup Multipurpose Community and Youth Centre.
Picture: Shire of Capel



of a lot of community buy-in — not just at the warm and fuzzy thoughts about how great it's going to be but the actual pragmatism on how we're going to pay for it."

She claimed the centre was a project which got "dumped on" the council after an \$8m State Government funding commitment at the last election and the operating costs would result in an 8 per cent rate rise for residents.

While describing Cr Andrews' operating cost concerns as "definitely valid", Cr Kitchen said the centre had been in the council's long-term financial plan "for probably near on a decade" and the operating costs were an estimate.

"(It) is quite a high-level study at this point of time and some of those things are made on assumptions," he said.

"We're actually already spending about \$365,000 per year running our current library and other services in Dalzellup. These will be moved across into this building so

we'll no longer be paying a lease. "Some staffing requirements will increase in this building but that's because there is a different offering there."

The debate over the centre's running costs overshadowed the council's move to contribute an additional \$500,000 from reserves funding towards the project in the hope it would attract additional funding.

Deputy Shire president Sebastian Schiano supported the move, noting the area's growing population.



"There is a level of staffing, support, facilities and services that currently doesn't exist in Dalzellup and this building ... is also about making the Shire present within the community," he said.

The vote was carried 6-1, with Cr Andrews the dissenting vote.

The additional contribution still leaves the precinct more than \$1m short.

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

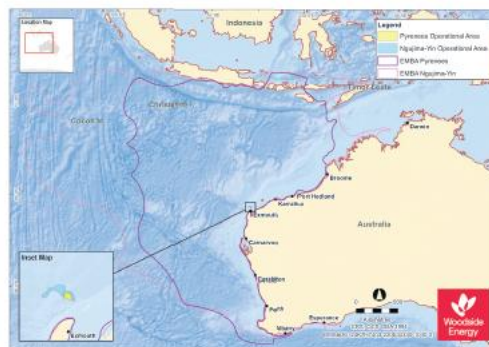
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 940 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.11 Kimberley Echo (14 September 2023)

Kimberley Echo
Thursday, September 14, 2023
kimberleyecho.com.au
NEWS 7



A 3D rendering of the Kimberley Marine Support Base.

Marine base to buoy shipping

CAIN ANDREWS

The long-awaited Kimberley Marine Support Base is set to begin construction before the end of the year with the new infrastructure expected to drive significant economic development in the region.

The \$200m privately funded infrastructure project will help tackle operational challenges associated with Broome's big tide variations by implementing a new innovative floating wharf design. The design will eliminate the need for dredging, leveraging naturally occurring deep waters to create a berth pocket of at least 17m deep at low tide.

The 9900sqm floating wharf project is estimated to create 260 jobs during construction and sustain 1650 jobs once in operation.

In Broome to announce the project update, Ports Minister David Michael said the infrastructure would help diversify the local economy.

"The \$200m project will be constructed over the next two years by the private proponent, which will allow for greater diversification of trade in and out of Broome Port," he said.

"Importantly, more cruise ships will be able to berth at Broome and it's a real win-win for the Kimberley Port Authority at the Port of Broome with many services being used by the proponent which will assist the existing facilities here at Broome too.

"It'll allow for diversification and so oil and gas, agriculture, as well as those critical minerals like Kimberley Mineral Sands, will also be able to use this facility.

"It's also important for the resilience of the Kimberley to be able to bring in containers to assist with resilience and food security in the wet season."

Construction of the project is expected to run until early 2025 with WA company Total AMS appointed as the lead contractor.



Government of Western Australia
WA Country Health Service



**WE WANT
TO HEAR
FROM YOU**

Interested in health?

Would you like to contribute to health care in your community?

WA Country Health Service invites you to join our East Kimberley District Health Advisory Council (DHAC). This covers the towns of Kununurra, Wyndham and Halls Creek. Our health service is unique, and listening to the voices of our community will help us shape the future of our service.

Why join?

Partnering with, and listening to consumers, carers, and the community, leads to better health care.

DHAC members work with the WA Country Health Service to represent the consumer voice about what works well and what needs improvement.



CONTACT US

For more information please contact our team.

P: 08 9166 4233

E: Kdh.executiveassistant@health.wa.gov.au

District Health Advisory Councils | Engaging with our community

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

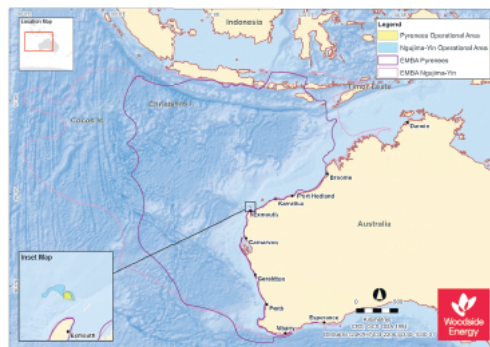
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by **Friday, 27 October 2023** to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 941 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.12 Albany Advertiser (14 September 2023)

4 NEWS

albanyadvertiser.com.au

Albany Advertiser
Thursday, September 14, 2023

Committee 'has power' to aid in change

STUART MCGUCKIN

Two Albany women who took part in the first regional hearings for the WA Parliament's inquiry into forced adoption last week are concerned that others will not have the same opportunity.

Adoptees testified at the hearings in Albany on September 4, sharing their experiences with members of the Environment and Public Affairs Committee.

Jen McRae and Danae Witherow both testified at the hearing.

During their testimony, they sat across the table from the five committee members in a room full of department staff.

Ms McRae described it as a "very official" setting where those testifying were "in a room full of people you don't know".

Ms Witherow said the setting did not worry her because the committee "needed to see people".

"They need to see people face to

They need to see people face to face and listen to our tone of voice, and tell them the difficulties we come across every day, and what they can do to change it.

Danae Witherow

face and listen to our tone of voice, and tell them the difficulties we come across every day, and what they can do to change it," she said.

"I kept saying to them, they have the power to change these things."

"They have the power to make recommendations to change laws to make it easier for us to get access to what people who are not adopted freely get."

She said there were lots of reactions from people in the hearing that indicated "people had no idea what we go through".

"I don't think they are aware of what's actually in the Adoption Act," she said.

For Ms McRae, who was the principal petitioner calling for the inquiry, the hearing was "like a bit of a reckoning" after the work it took to secure it.

"But we are concerned they may not roll this offering out to the rest of the regions and it may only be city hearings from now on, which is simply not good enough," she said.

Speaking on behalf of the committee, chair Peter Foster said hearings would continue to be held as part of the inquiry.

"The committee is, and has always been, prepared to travel regionally where there are witnesses who have expressed an interest to appear before the com-



mittee and share their lived experiences," he said.

He said the hearings in Albany were conducted in "a sensitive manner, supported by trauma-informed counsellors who flew into Albany for the assistance of witnesses who required support".

"The information that was provided has greatly assisted the com-

mittee with their inquiry," he said.

Evidence presented during the hearing will be in addition to the 136 written public submissions received between late February and September. A report will be prepared for Parliament with a number of recommendations at the conclusion of the inquiry.

"We want redress, we want the

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

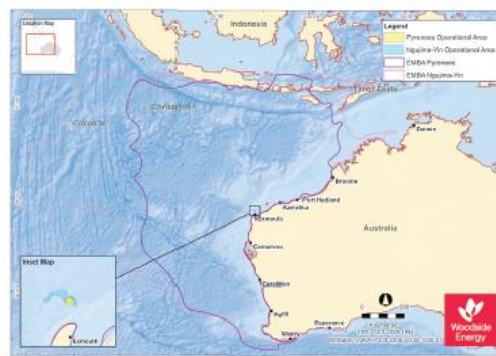
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environmental Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com
Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 942 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.13 Countryman (14 September 2023)

countryman.com.au
Thursday, September 14, 2023

NEWS 11

WA gun law overhall 'soon'

JOSH ZIMMERMAN

Roger Cook has revealed a controversial rewrite of WA's firearms laws is expected to be introduced to State Parliament before the end of the year, with the State reeling from another fatal shooting.

The Premier said the legislation — which would include temporarily banning anyone issued with a violence restraining order from owning a gun — was in the "advanced stages of drafting" and would be released for public comment "in the coming weeks".

His comments come after 25-year-old Lachlan Bowles allegedly fatally shot Kellerberrin father Terry Czernowski at Moylan Grain Silos on Thursday, September 7.

He then went on the run, prompting a massive police response and leaving WA's agriculture industry reeling.

Plans to overhaul WA's 50-year-old gun laws — the only firearms regime in the nation that has not been amended in that time — were announced back in March 2022.

It was previously expected the laws would not reach Parliament until next year at the earliest as the Cook Government fine-tuned the details of the legislation.

The Government has been criticised for the time taken to complete the rewrite of legislation it has repeatedly spurned since last March, but Mr Cook said the Bill was not far off.

"That legislation is in the advanced stages of drafting," he said. "We will have it available for the community to look at in the coming weeks, and we are looking forward to that legislation passing through the Parliament throughout this and early next year."

Asked to confirm if he now expected to introduce the firearms laws before Parliament rises for the summer break at the end of November, Mr Cook said: "That's my hope."

WAFarmers President John Hassell questioned the move to automatically exclude anyone slapped with a VRO from gun ownership.

He said in some instances, applications for restraining orders were "vexatious".

Currently, a person subject to a VRO or FVRO can apply to the State Administrative Tribunal to preserve their licence to own a gun while the order remains in place.

The proposed new laws would remove that avenue, forcing the surrender of all guns unless a judge could be convinced to overturn the restraining order itself.

Mr Hassell said he understood and was supportive of the intent of the changes but that the VRO system itself required an overhaul.

Mr Cook said VROs were "occasionally" vexatious but that his priority was keeping the community safe, which meant "we need to err on the side of caution".

"If a VRO is applied for, you can appeal against that VRO," he said.

He confirmed the laws would apply retrospectively to all VROs in force when the legislation was adopted. "It would require the police, I should imagine, to then provide notice to the firearm holder that their licence is disqualified (and any guns need to be surrendered)," he said.

KELLERBERRIN SHOOTING
SHOCK: PAGES 12-13



Picture: Justin Brecken-Cooper

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sell-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

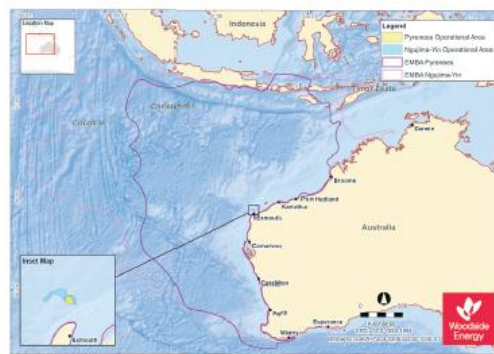
The environment that may be affected (EMBA)

The EMBA is the largest area where activities could potentially have a direct or indirect impact. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modeling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 943 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.14 Narrogin Observer (14 September 2023)

2 NEWS

narroginobserver.com.au

Narrogin Observer
Thursday, September 14, 2023

The Narrogin Observer is bound by the Independent Media Council Code of Conduct (independentmediacouncil.com.au). If you believe the code has been breached and wish to complain about an article in this newspaper, contact the Readers' Editor by email: readerseditor@wanews.com.au or in writing to the Readers' Editor, GPO Box D162, Perth WA 6840. If the complaint is not resolved to your satisfaction the Readers' Editor will pass it on to the Independent Media Council for review.

Letters to the editor must contain the author's full name, address and daytime contact number. Letters may be edited for space, clarity or legal reasons. See below for contact details.

Published by
Regional
NEWS BRANDS
A division of West Australian Newspapers Holdings Ltd

To purchase photos, historical images and front pages from West Australian Newspapers' archive, visit westpix.com.au.



DANIEL ROONEY

The Narrogin Regional Herbarium has returned to public display after it was gifted to the Shire by the Department of Biodiversity, Conservation and Attractions.

The Shire of Narrogin made the announcement on September 5. The historical botanic specimens contained in the herbarium were collected by former members

of the Central South Naturalist Club Gwen Warren, Pat Rose and Carol Taylor.

"These individuals devoted countless hours to the meticulous preparation of specimens, ensuring their lasting value for scientific research and public appreciation," Shire of Narrogin president Leigh Ballard said.

"We extend our heartfelt gratitude to the former members of the

Central South Naturalist Club and to Greg Durrell, regional manager of DBCA, for facilitating this significant opportunity to bring the herbarium back into the public domain."

A portion of the herbarium featuring the native wildflowers of Foxes Lair west of Narrogin can now be viewed at the Narrogin and Dryandra Visitors Centre. Specimens on display will rotate

in accordance with seasonal changes to showcase the Wheatbelt South's diverse botanic range.

When not on display people will be able to examine the herbarium's stored specimens upon request.

"The herbarium is a beacon of knowledge and a tribute to the dedicated individuals who have made it possible," Shire of Narrogin Community Development Officer Anna Pryszyszna said.

Advertise

Classifieds Phone: (08) 6332 1141
Email: classifieds@narroginobserver.com.au
Classified deadline: Display 2pm Monday, Images 10am Tuesday
Display ads and promotions: Phone: (08) 6332 1140 or 0418 441 435
Email: ads@narroginobserver.com.au
Display deadlines: Bookings: noon Thursday prior to publication.
Copy: 4pm Friday prior to publication.

Inquiries

PO Box 131 Katanning WA 6317
Office hours: 9am-4pm Monday-Friday
Phone: (08) 6332 1141
Website: www.narroginobserver.com.au

Home delivery

Contact your local newsagency or call (08) 6332 1141.

Got a story?

Phone: (08) 6332 1142
Email: news@narroginobserver.com.au

Responsibility for editorial content in this issue is taken by Eliza Kavanagh, 165 York Street, Albany WA 6330. Published by the Albany Advertiser Pty Ltd, ABN 68 009 190 305. Printed by Colourpress Pty Ltd, ABN 17 005 172 276, West Australian Newspapers, Herdman Print Centre, 54 Hasler Road, Osborne Park 6107. Phone 9361 5401.

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

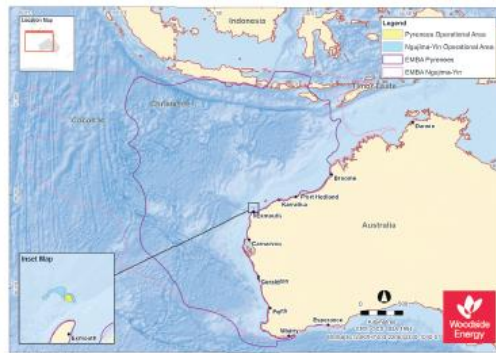
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environmental Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at: www.woodside.com/sustainability/consultation-activities.

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 944 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.15 Great Southern Herald (14 September 2023)

2 NEWS

gsherald.com.au

Great Southern Herald
Thursday, September 14, 2023

The Great Southern Herald is bound by the Independent Media Council Code of Conduct (independentmediacouncil.com.au). If you believe the code has been breached and wish to complain about an article in this newspaper, contact the Readers' Editor by email: readerseditor@wnews.com.au or in writing to the Readers' Editor, GPO Box D162, Perth WA 6840. If the complaint is not resolved to your satisfaction the Readers' Editor will pass it on to the Independent Media Council for review.

Letters to the editor must contain the author's full name, address and daytime contact number. Letters may be edited for space, clarity or legal reasons. See below for contact details.

Published by
Regional
NEWS BRANDS
A division of West Australian Newspapers Holdings Ltd

To purchase photos, historical images and front pages from West Australian Newspapers archive, visit westpix.com.au.

Cafe shows its gratitude

HARRY GRIGSON

The owners of a popular Katanning coffee shop have found a unique way to repay the emergency services that helped their daughter after a car crash five weeks ago.

In a heartwarming display of gratitude and community spirit, Emu Lane Coffee Cart owners David and Julie Harries have pledged their support for local emergency services.

Mr Harries said the cafe had since provided response crews with free frozen meals to store at their headquarters if they miss dinner or lunch due to attending emergencies.

"After they helped my daughter I asked them what they had for dinner, and they said they didn't have anything," he said.

"I thought it's unfair for them to be providing immense care and help to people but not be able to eat."

"Now we donate frozen meals so if they are out on the job, they have something to come back to."

Some of the scrumptious food they have supplied includes meatball pasta, Sri Lankan chick-



Const. Rory Guyan, Sgt Jeff Daniels, Paul Bradley, Brie Jackson, David and Julie Harries, KJ Willey and Sen. Sgt Carlos Correia. Pictures: Harry Grigson

en curry, Moroccan lamb and bangers and mash.

On August 5, their 19-year-old daughter lost control of her Holden Rodeo and crashed into a ditch on Great Southern Highway about 15km from Katanning.

Emergency services from Katanning and Albany attended the scene and she did not sustain any serious injuries.

Mrs Harries said it was important for the community to show emergency crews the appreciation they deserved.

"It's our way to give back to the services teams because they do so much for the community," she said. "We also give them 50 per cent off any coffees when they are in uniform as a token of our appreciation."



The Harries with meatball pasta.

Advertise

Classifieds: Phone (08) 6332 1121. Email: classifieds@greatsouthernherald.com.au
Classified deadline: Bookings by 12.30 Monday. Display 3pm Monday before publication. Linings 4pm Monday before publication.
Display ads and promotions: Phone (08) 6332 1121 or 0438 441 435. Email: ads@greatsouthernherald.com.au
Display deadlines: Bookings 11am Thursday before publication. Copy set noon Friday before publication. Complete material 10am Monday prior to publication.

Circulation

Copies distributed to Katanning, Albany, Broome Bay, Broomhill, Bunbury, Cranbrook, Dumbaling, Gnowangerup, Jarraungup, Kojonup, Kulin, Lake Grace, Mt Barker, Newdegate, Nyabing, Ongerup, Perth, Pingrup, Tambellup, Tenterden, Wagn and Woodanilling.

Inquiries

49 Cheve Street, Katanning
PO Box: PO Box 131 Katanning WA 6317
Office hours: 8.30am-4pm Monday-Friday
Phone: (08) 6332 1120

Got a story?

Phone: (08) 6332 1123
Email: news@greatsouthernherald.com.au

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

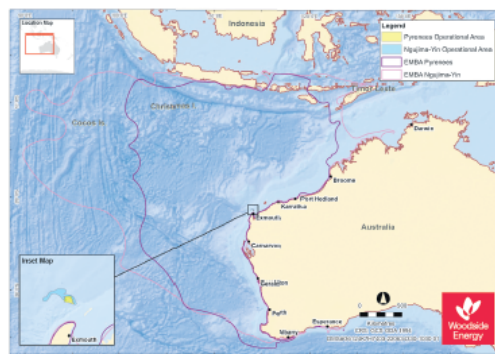
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by **Friday, 27 October 2023** to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 945 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.16 Augusta Margaret River Times (15 September 2023)

12 NEWS

anrntimes.com.au

anrntimes.com.au
Friday, September 15, 2023

Funds threat hits mental health help

WARREN HATELY

A lauded community network aiming to bolster the region's mental health needs is facing another major funding hurdle which could undo all of its good work.

Mindful Margaret River leaders say the group's unconventional model falls outside the easy parameters for State Government funding and without a significant commitment as soon as next month could lose its project officer, with valued Lotterywest money about to come to an end.

MMR was founded in 2019 through a collective of voluntary professionals to help residents access mental health services not readily available to people living outside of major hubs such as Bunbury and Perth.

However, project officer Erin Stutz said a slew of programs and training initiatives planned as part of the group's latest strategic plan were now in jeopardy.

"It is hard to make long-term change when all grant funding is one-off, and only for new projects and limits how the funding can be used," Ms Stutz said.

Dedicated funding was needed to support ongoing initiatives, particularly around early interven-

tion and prevention activities which required considerable planning and logistics.

Last month, the Times reported WA Association of Mental Health chief executive Taryn Harvey noting State Government investment was focused on acute care, which left gaps at the community level.

Ms Stutz said funding was deserved to support volunteers who were stepping in where government services fell short.

"If it doesn't fit the funding box exactly, there is no funding for it," she said.

It was additionally frustrating because all sectors had championed MMR's work, but the funding system had not caught up.

Inaugural MMR chair Stuart Hicks said it was not the first time funding became a key issue.

The group came into existence partly as a response to WA's Department of Communities withdrawing its local office.

"Mindful Margaret River has had a profound benefit for mental health in our region," Mr Hicks said.

"The incomparable genius of the MMR model is its emphasis on friendly local people providing help to locals.

"A largely voluntary body like MMR depends on having an implementation officer to help co-ordinate and drive its efforts.

"It would be a crying shame if MMR and our community loses its implementation officer through lack of funds."

Mental Health Commissioner Maureen Lewis said the MHC remained in dialogue with MMR since working with the group since 2020 and helping with funding through the MHC-funded South West Community Alcohol and Drug Service.

"The Commission acknowledges the group's important work in improving the mental health and wellbeing of the community," Ms Lewis said.

"We will continue to maintain an ongoing dialogue with MMR to learn about the issues faced by people in Margaret River and its surrounding communities, and explore possible funding opportunities in the future."

MHC noted the State Government had committed \$201 million during the next four years to increase mental health support services, plus \$24.4 million to the WA Country Health Service for mental health emergency telehealth services.



Mindful Margaret River project officer Erin Stutz.
Picture: Warren Hateley

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

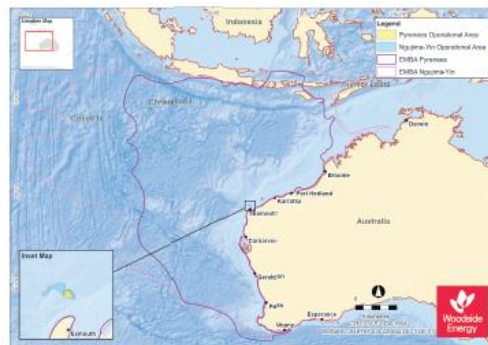
The environment that may be affected (EMBA)

The EMBA is the largest area where activities could potentially have a direct or indirect impact. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environmental Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 946 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.17 Busselton Dunsborough Times (15 September 2023)

8 NEWS

bdtimes.com.au

Busselton Dunsborough TIMES
Friday, September 15, 2023

Region's Telethon stars shine

CLAIRE SADLER

This year's Telethon will feature two pint-sized heroes from the South West.

Making up half of the Little Telethon Stars fab four are Emily Houston from Harvey and Bunbury's Connor Barrett.

They will be front and centre when the 56th Telethon runs from October 21-22, along with the other Telethon Little Stars Harrison Carthew and Sophia Marshall, both from Perth.

They all have stories to tell about their health struggles but share two common attributes — they never give up, and won't let their difficult circumstances dictate who they are.

Emily was diagnosed with acute lymphoblastic leukaemia at just four years old, while for Connor, cystic fibrosis leaves him unable to digest food, damages his lungs, and gives him excruciating pain in his digestive system.

Telethon chairman Richard Goyder knows all too well the struggles that come with having a child with an invisible disease.

His son Will, now 25, was diagnosed with diabetes as a child.

"As a parent you're always on top of that, while wanting to give your child as much freedom as they can have," he said.

"We used to have to get up every two hours at night to finger-prick him and check his blood sugar levels."

Seven-year-old Emily received her last round of treatment in



Telethon's Little Stars include Emily Houston of Harvey, and Bunbury's Connor Barrett, as well as Harrison Carthew and Sophia Marshall.

August but is still in a clinic as she continues her antibiotics and undergoes monthly blood tests to make sure she is not relapsing. The Harvey Primary School Year 2 student was granted a very special Make-A-Wish funded by Telethon — to become the Hulk and save her oncology team from an attack.

Make-A-Wish chief executive Sally Bateman said Emily's unique wish captured everyone's attention.

"She has such a positive outlook, and learns and grows from her experiences," she said.

"It was her desire to show the world how brave she is that made

her the perfect fit for the Little Telethon Stars."

For eight-year-old Connor the treatment for his genetic disease requires 25 doses of medicine and two physio sessions a day.

Cystic fibrosis is life-limiting, but Connor doesn't let it get in the way of his dreams. "I want to be a

scientist because it's interesting and you can help people," he said.

This year, Telethon helped 107 beneficiaries continue to improve the health and wellbeing of sick and vulnerable WA children with the \$71.3 million raised in 2022, and it is hoped in 2023, it can achieve even more.

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

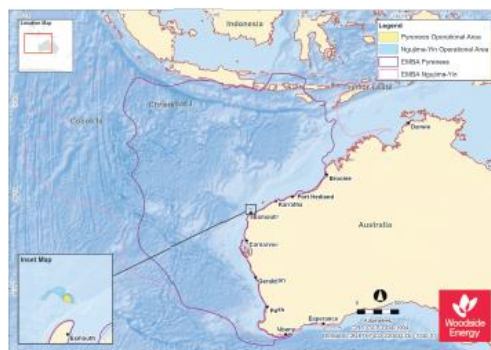
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 947 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.18 Geraldton Guardian (15 September 2023)

12 NEWS

Geraldtonguardian.com.au

Guardian
Friday, September 15, 2023

Sex pest masseur is guilty

EXCLUSIVE PETER DEVLIN

A former Geraldton massage therapist has been found guilty of inappropriately touching female clients and other lewd behaviour during sessions.

The trial of Chun Hung Wong resumed in the Joondalup Magistrates Court on Thursday, after being partly heard in Geraldton in March last year.

He was accused of a range of inappropriate conduct during massage sessions with nine female clients, some of whom were pregnant, between 2014 and 2021 at the now-closed Marine Terrace clinic Brilliant Massage.

He pleaded not guilty to 10 counts of unlawful and indecent assault.

After hearing from the nine complainants during a trial, Magistrate Evan Shackleton on Thursday found Wong guilty of four charges and acquitted him of six.

Wong was found guilty of masturbating while massaging a client in 2016.

Giving evidence in Geraldton, the female victim said Wong massaged her using only one hand and she believed she heard noises consistent with the sound of masturbation.

She said after the massage she noticed a "sticky-like" substance on the side of the massage table.

Another victim told a similar story of Wong's "laboured breathing" during a massage and said he was massaging her with only one hand.



Chun Hung Wong arrives at Joondalup Magistrates Court for an appearance in July. Picture: Christopher Tan

She said he then started "caressing" her bottom and was touching close to her genitals. At one point she said she heard what she thought was masturbation.

An 18-year-old said Wong had commented on her scent during a session in 2016.

In the same session, the client said she felt what she thought was the masseur's penis on her arm.

A fourth victim, who was pregnant at the time of the session, accused Wong of touching her inappropriately, clapping her buttocks together and sitting on top of her.

The magistrate found Wong guilty in each of these incidents.

Mr Shackleton found Wong not guilty of three indecent assault charges relating to massage sessions with another client between August and October 2020.

Under cross-examination by the prosecution, Wong denied he masturbated or had an erection during some sessions.

When asked if he agreed that he needed consent if massaging close to sensitive areas, Wong said: "Yes, I always ask for consent, and for them to let me know if it needs changing."

He said even if massaging the buttocks area, his hands would not be close to a woman's genital area.

When asked why he needed to work on an area covered by underwear, Wong said: "I asked for permission to work on that area."

Wong, who answered questions mostly in English, conceded sometimes he asked clients to remove their underwear.

"It's easier because it's difficult when people wear tights or bicycle shorts and their underwear is tight — but it's an unusual case and I usually write it down on my notes," he said.

Some complainants testified about the "distinct smell of semen" and sounds that pointed to masturbation, but Wong argued the smell could have been his bad breath and put any sounds down to use of massage oil. In closing remarks, the police prosecutor said Wong's evidence changed as he went along and his explanations did not make sense. She said the complainants' evidence could be accepted as honest and reliable as they used different language to describe similar things, didn't know each other, and testified about common occurrences.

The prosecutor said based on all the evidence it could be found Wong preyed on the women for his own gratification.

Wong's defence lawyer Ashleigh Antoine, in her closing submission, said her client had made it clear all massages were done with consent or he believed he had the women's permission. She said just because there was an absence of paperwork confirming consent, it didn't mean Wong didn't get it from his clients.

She said Wong maintained the massages were only done for a "legitimate therapeutic purpose".

The defence lawyer argued it was an "industry you will keep learning, there is no one way to massage".

Wong is set to be sentenced on December 22 at Joondalup Magistrates Court. His bail was renewed but he is prohibited from engaging in professional remedial or massage practices.

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

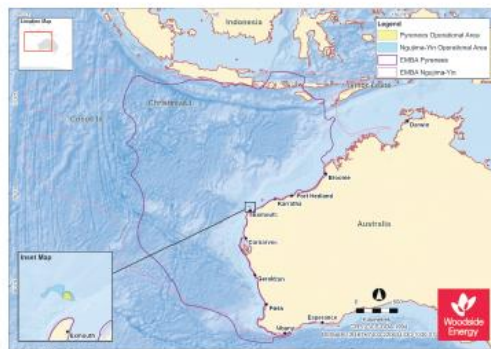
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modeling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by Friday, 27 October 2023 to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 948 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.19 Harvey Waroona Reporter (19 September 2023)

10 THE REFERENDUM DEBATE

harveyreporter.com.au

Reporter
Tuesday, September 19, 2023

Where the South West's

One month out from the referendum on the creation of an Aboriginal and Torres Strait Islander Voice in the Constitution, **Sean Van Der Wielen** asks South West MPs what they think of the proposal.

It is a debate which is set to be the talk of the town over the next few weeks.

On October 14, voters will be asked whether they support altering the Constitution to recognise the First Peoples of Australia by establishing an Aboriginal and Torres Strait Islander Voice. It is the first time in nearly 25 years the public has been asked to vote in a referendum.

With the vote now one month away, we have asked politicians representing the South West at a State and Federal level what their views are on the Aboriginal and Torres Strait Islander Voice.

Don Punch
Binbury MLA, Labor
Do you support the Voice? YES

I support the creation of an Aboriginal and Torres Strait Islander Voice through changes to the Australian Constitution. I believe it is a fair and just response to address the issues creating the disadvantage experienced by First Nations people, and it comes without risk or detriment for the broader community. The Voice is simply about advice to inform better decision making, leading to better results. Everyone benefits when we achieve better results in our communities. We have everything to gain from listening and nothing to lose, and at the end of the day that is all the Voice is about, listening to Aboriginal people and matters that affect them. The Parliament will still determine how we listen and what we do

with the advice. The Voice does not undermine the authority of the Parliament. It's time we started listening, and there is nothing to fear.

Nola Marino
Forrest MHR, Liberal
Do you support the Voice? NO
All of us want better outcomes for Indigenous Australians particularly for those who live in regional and remote parts of Australia. However, I don't believe the Government's Voice model is the answer. Every Australian should be equal under our Constitution. There are no details, it will be costly, bureaucratic and divisive which is why I encourage everyone to show respect and care throughout this process. The result of this referendum will be decided by the Australian people.

Libby Mettam
Vasse MLA, Liberal
Do you support the Voice? NO
I support recognition of Indigenous Australians in our Constitution but as I have said publicly, can no longer vote yes in the upcoming referendum due to the lack of clarity around how the Voice will work. The Labor Government has had well over 12 months to provide more details and explain how the Voice to Parliament will work to improve the lives of Indigenous Australians but have disappointingly failed to do so. As we saw with the implementation, and subsequent



scrapping, of the Aboriginal Cultural Heritage Act laws in WA, details matter. I had hoped the Prime Minister would be able to better explain how the Voice will lead to better practical outcomes, and I am disappointed he has not been able to provide those details. I recognise and respect that there are differing views in the community. Every Australian of voting age is entitled to an equal vote, and I respect Western Australia

lians will have their own reason that informs their vote on 14 October.

Jodie Hanns
Collie-Preston MLA, Labor
Do you support the Voice? YES
I'm voting yes because I believe an Indigenous Voice will help governments make better decisions on issues impacting the lives of Indigenous kids, families and com-

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the **Ngujima-Yin Floating Production Storage and Offloading Facility Operations** and **Pyrenees Facility Operations**.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

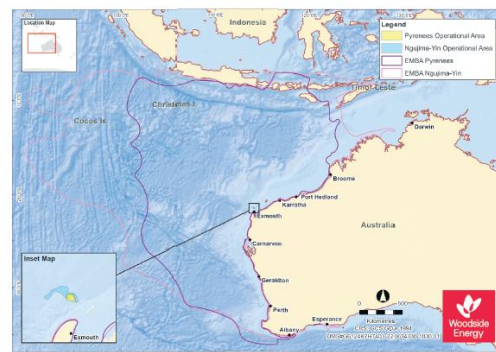
The environment that may be affected (EMBA)

The EMBA is the largest area where activities could potentially have a direct or indirect impact. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by **Friday, 27 October 2023** to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com
Toll free: 1800 442 977
woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 949 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.20 Koori Mail (20 September 2023)



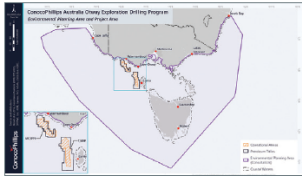
Relevant Person Consultation:

ConocoPhillips Australia Otway Exploration Drilling Program

ConocoPhillips Australia is continuing to develop an Environment Plan for the proposed offshore Otway Exploration Drilling Program that consists of seabed surveys and the drilling of up to six exploration wells in exploration permits VIC/P79 and T/49P, located in Commonwealth waters.

ConocoPhillips Australia is releasing draft Environment Plan chapters to support consultation and has extended consultation on the proposed activity until **30 September 2023**, after which time we will pause consultation so we can collate a submission to NOPSEMA for public comment and assessment. Relevant persons can view the draft Environment Plan chapters and information on how to provide feedback via the consultation hub by scanning the QR code below or can request copies of the draft chapters and other relevant information, by contacting ConocoPhillips Australia.

We are asking relevant persons to provide feedback by **30 September 2023**.



The Environmental Planning Area covers the area assessed within the Environment Plan and encompasses a wide range of habitats and marine species, cultural values and socio-economic activities

For more information:
 E: otway@conocophillips.com
 T: 07 3182 7122
conocophillips.com.au



SCAN HERE



Australian Government
Australian Heritage Council

Environment Protection and Biodiversity Conservation Act 1999

PROPOSED AMENDMENTS TO A NATIONAL HERITAGE LISTING: WAVE HILL WALK OFF ROUTE

CALL FOR PUBLIC COMMENT

The Australian Heritage Council is proposing amendments to the **Wave Hill Walk Off Route** National Heritage listing to correct factual errors in the listing. The National Heritage List recognises places that are of outstanding significance to the nation for their natural, Indigenous and/or historic heritage values.

The Australian Heritage Council, on community advice, proposes to change the date of the Walk Off from the **22nd of August 1966 to the 23rd of August 1966**. Further to this, parts of the Buchanan and Buntine highways that relate to the Walk Off Route have been renamed. The Council proposes amendments to the listing to correlate the historical route to contemporary maps. The Council's initial assessment concludes that all of these proposed amendments do not alter the National Heritage listed values of the place.

Comments are invited on these proposed amendments to the Wave Hill Walk Off Route listing. Further information is available by contacting the Australian Heritage Council at heritage@dceew.gov.au. The Wave Hill Walk Off National Heritage listing can be accessed via the Australian Heritage Database, <http://www.environment.gov.au/cgi-bin/ahdb/search.pl>.

Contact us
 Please provide any written comments by 5:00 PM AEST on 2 November 2023.
 Australian Heritage Council
 GPO Box 3090
 CANBERRA ACT 2601
 Or by email to: heritage@dceew.gov.au

All comments will be provided to the Minister for the Environment for consideration when making her decision on whether or not the proposed amendments alter the heritage values of the National Heritage Listing.



13 11 14

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

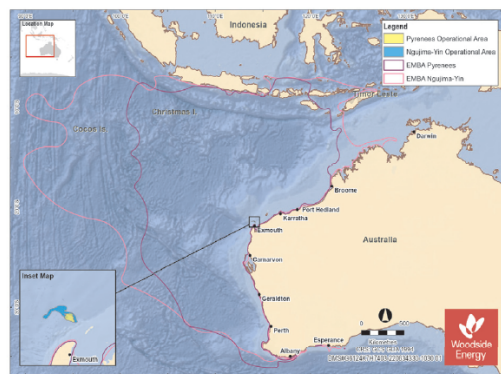
The environment that may be affected (EMBA)

The EMBA is the largest area where activities could potentially have a direct or indirect impact. The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environmental Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by **Friday, 27 October 2023** to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at:
www.woodside.com/sustainability/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com
 Toll free: 1800 442 977
woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 950 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.1.21 National Indigenous Times (26 September 2023)

22 NIT

THE INDIGENOUS BUSINESS REVIEW

theibr.com.au

Call for probe of NAAJA

Allegations arise of misuse of millions at legal organisation

DAVID PRESTIPINO

Commonwealth Auditor-General Grant Hehir and the Australian National Audit Office have been urged to investigate the alleged misuse of millions of dollars within Australia's largest Indigenous legal organisation, the North Australian Aboriginal Justice Agency, after claims of corruption and fraud among staff.

NAAJA receives close to \$20 million in Commonwealth funding a year but dozens of serious allegations of criminal conduct among its leadership team are the subject of a Federal court case next month.

NAAJA receives \$83m over five years from the National Legal Assistance Partnership, a Federal Government agency, but shadow attorney-general Michaelia Cash has requested that Mr Hehir and ANAO consider "an audit of arrangements under the NLAAP that may result in the payment of Commonwealth money to NAAJA" in a letter seen by The Australian newspaper.

"The reports raise serious concerns about the potential misuse of Commonwealth money provided under the

National Legal Assistance Partnership, and the efficacy of governance arrangements under that agreement," Senator Cash wrote.

She took aim at Federal Attorney-General Mark Dreyfus, who indicated the onus was on the Northern Territory Government to administer the NLAAP funds.

"With respect, if that is the case, that is all the more reason for an audit," Senator Cash wrote.

"If NLAAP arrangements are such that the administration of Commonwealth funding is done at arm's length, as the Attorney-General appears to contend, then the governance provisions in the intergovernmental agreement that allow the Commonwealth to appropriately monitor expenditure (and respond to any misuse of Commonwealth funds) are all the more important."

NAAJA conducts most Indigenous legal cases in the Territory, and has 200 workers in the NT.

Senator Cash said any recommendations from a performance audit of NAAJA could signal more robust governance of how Commonwealth funding

was spent and tracked. She said any improvements identified through an audit "ought to be implemented more generally in respect of funding to other service providers that is governed by the NLAAP".

The ANAO recently found an alarming lack of audit controls at Australia's leading Indigenous funding organisation, the National Indigenous Australians Agency.

The NIAA employs more than 1300 people across Australia and had its budget in 2022-23 increased to \$4.5 billion to fund programs through the Federal Government's Indigenous Advancement Strategy.

The ANAO report said in 2021-22 the NIAA spent \$1.03b on more than 1000 external providers to deliver Indigenous Advancement Strategy activities and services, yet failed to initiate a single fraud investigation — an anomaly among similarly sized Federal agencies.

Indigenous Australians Minister Linda Burney told National Indigenous Times at the time that the audit shortfalls at the NIAA were "concerning".

The Australian reported the NT Commission Against Corruption was also investigating

the allegations against NAAJA, many of which have emerged in a Federal Court case filed by an employee who alleges she was fired after discovering the corrupt conduct of two senior members of its leadership team, who have both denied the claims and remain employed.

The matter is scheduled for trial from October 23.

In a statement issued last Wednesday, NAAJA said: "In the wake of recent media coverage regarding allegations of improper conduct by NAAJA, the NAAJA board confirms that it categorically refutes these allegations."

"In November 2022, the NAAJA board initiated two separate independent investigations."

"The first independent investigation was an audit of finance, credit card use and other undisclosed arrangements that were not authorised by the NAAJA board."

"This independent investigation was undertaken by BDO Australia."

"The BDO Australia findings were lodged with NT Police in February 2023."

"NAAJA is continuing to assist NT Police with their investigations. The BDO Aus-

tralia findings were also lodged with the Australian Federal Police."

"NAAJA is waiting on advice from the AFP on progress on their investigations into the matters identified in the BDO Australia independent investigation."

"The second independent investigation was an organisational review of corporate governance, maturity and the effectiveness of functional business unit systems and processes within NAAJA."

"This independent investigation was undertaken by KPMG and finalised in January 2023."

"All recommendations for improvement have been accepted and endorsed by the NAAJA board. NAAJA has commenced implementing key recommendations of the KPMG independent investigation with a focus on strengthening governance, systems, and operations."

"The NAAJA board is committed to ensuring that NAAJA continues to deliver quality services to its clients and community. NAAJA calls on NT Police and the AFP to take immediate steps to conclude their respective investigations as a matter of urgency."

NGUJIMA-YIN FLOATING PRODUCTION STORAGE AND OFFLOADING FACILITY OPERATIONS AND PYRENEES FACILITY OPERATIONS ENVIRONMENT PLANS

For more than 35 years, Woodside has been developing and operating LNG and oil projects in Australia. Our focus is the safety, reliability, efficiency and environmental performance of our operations and activities.

Woodside consults so that feedback from relevant persons is considered and used to inform the revision of two operations Environment Plans for the Ngujima-Yin Floating Production Storage and Offloading Facility Operations and Pyrenees Facility Operations.

Our activities

Woodside plans to continue producing crude oil at the Pyrenees and Ngujima-Yin Floating Production Storage and Offloading (FPSO) facilities and is submitting a five-year revision to the operational Environment Plans. The Environment Plans for the Pyrenees FPSO and Ngujima-Yin FPSO facilities will cover operations including offloading and associated activities, inspection, maintenance, monitoring, and repair of the FPSOs and subsea infrastructure, disconnection and sail-away of the FPSO facilities when required, and production from two proposed additional wells from the Ngujima-Yin FPSO.

The Pyrenees FPSO is located about 45 km northwest of Exmouth, Western Australia. Production began in 2010 and is scheduled to end in 2035. The Ngujima-Yin FPSO is about 50 km, northwest of Exmouth, Western Australia. Production began in 2008 and is scheduled to end in 2028.

We are seeking input from relevant persons whose functions, interests or activities may be affected by continued operations.

The environment that may be affected (EMBA)

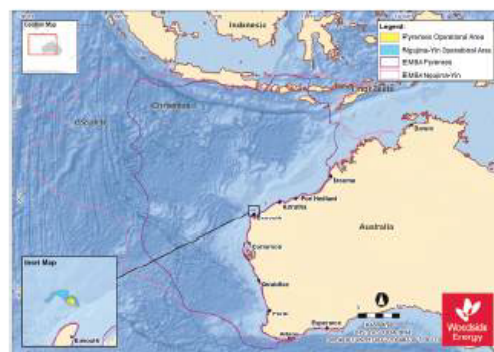
The EMBA is the largest area where activities could potentially have a direct or indirect impact.

The broadest extent of the EMBA takes into consideration planned and unplanned activities, and for these two Environment Plans, is determined by modelling a highly unlikely release of hydrocarbons from loss of well control or a vessel collision with the FPSO with enough force to breach the hull.

The EMBA represents the merged area of many possible modelled paths that a highly unlikely hydrocarbon release could travel if left unmitigated and depending on the weather and ocean conditions at the time of the release. This means in the highly unlikely event a hydrocarbon release does occur, the whole EMBA will not be affected.

We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by our activities, we would like to hear from you by **Friday, 27 October 2023** to identify you as a relevant person.



Want to know more or provide input?

A feedback form and more information can be found at: www.woodside.com/sustainability/consultation-activities.

You can also subscribe via our website to receive future information on upcoming activities.

E: Feedback@woodside.com

Toll free: 1800 442 977

woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 951 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.2 Social media campaign – Environment Plan consultation

Social media posts – 13 September – October 2023

A Facebook and Instagram information campaign was geotargeted to three areas: Perth Metro, Regional – North and Regional – South to reach a broad number of communities adjacent to the EMBA.

Optimised to maximise reach and impressions, activity ran across both Feed and Story placements, optimising between Facebook and Instagram.

As at 15 November 2023

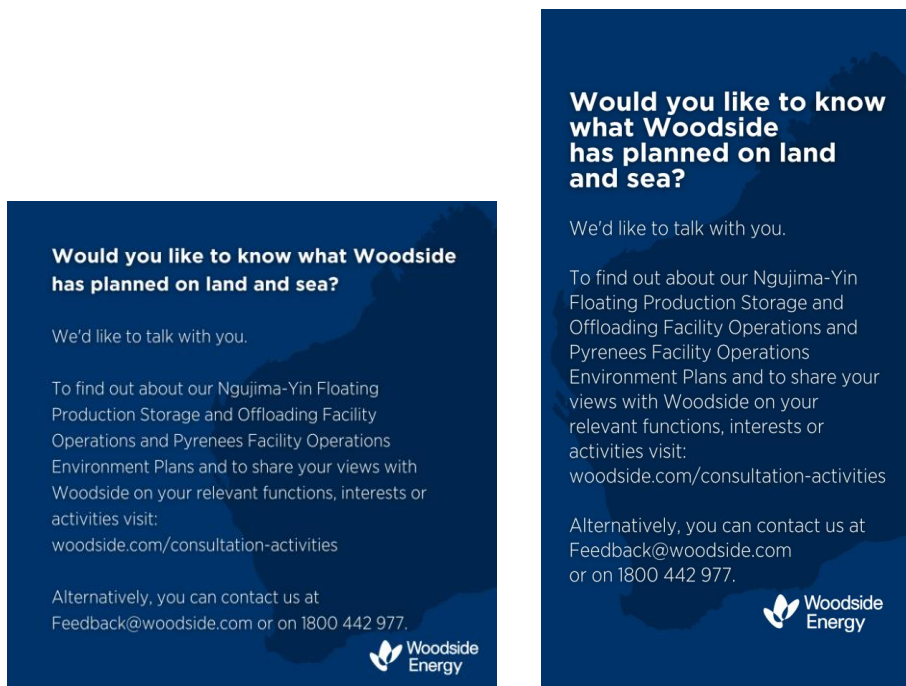
Ad reach: 1,360,350 users

Impressions: 7,021,890 views

Clicks through to *Consultation Information* page: 7067 link clicks.

Reach for geotargeted areas:

Location	Reach
Perth – Metro	1,146,919
Regional - North	295,721
Regional - South	226,182



5.3 Pilbara region community activities

5.3.1 Community information sessions – Karratha, Port Hedland and Roebourne – 18, 19 and 20 September 2023 respectively

Location	Karratha, Port Hedland, and Roebourne
----------	---------------------------------------

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 952 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Date	18 – 20 September 2023
Description of the consultation	Woodside hosted community consultation sessions in Karratha, Port Hedland and Roebourne to enable community members to understand Woodside's proposed activities and how it may affect them, ask questions, and provide their feedback. Woodside Project, Corporate Affairs, First Nations and Environment representatives were available to answer questions. A number of Environment Plan Consultation Information Sheets were available to attendees including the Pyrenees Facility Operations EP Consultation Information Sheet.
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: • Advertisement in the Pilbara News on 13 September 2023 (see below). • Geotargeted social media campaign advertising in Karratha (Reach 22,095), Port Hedland (reach 26,487), and Roebourne (reach 22,134) (+80 kms) from 6 to 16 September 2023 (see below). • An EP consultation banner with QR code (linked to the Consultation Activities page on the Woodside website), Scarborough Project banner, and Browse Project banners were displayed stand along with current EP factsheets (see below).
Estimated number of individuals / organisations consulted	18 September 2023 – Karratha. Estimated number of people consulted: 20 19 September 2023 – Port Hedland. Estimated number of people consulted: 20 20 September 2023 – Roebourne. Estimated number of people consulted: 0
Summary of Feedback, Objection or Claim	
Community discussions centred on: • Update of Woodside activities and employment and contracting opportunities. • General Woodside activities on the North West Shelf including the location of operations. Woodside noted the need for additional gas and the role Browse could play at the Karratha Gas Plant. • Some individuals had worked on a Woodside operations / project of knew family and friends that had. • General overview of what an EMBA was. • All community members were encouraged to provide their views on Woodside's activities through the Woodside feedback form on the Woodside website, or to subscribe to Woodside updates. An iPad was available for stakeholders to do this on the spot.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims. The community information sessions were part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Pilbara News Advertisement – 13 September 2023

Pilbara NEWS
Wednesday, September 13, 2023

pilbaranews.com.au

NEWS 5



City of Karratha Mayor Peter Long. Picture: Tom Zaunmayer

Mayor runs again as candidates put forward pitches

DANIEL SPENCE

Nominations have closed for the 2023 Karratha mayoral and councillor elections, with the list of candidates running to be the city's next mayor being released.

Peter Long — who has been in the position since 2011 — will be running again and said, if re-elected, he would continue to provide Karratha with intelligent, safe and inclusive leadership.

"I am a full-time mayor, always able to receive you and your ideas," he said. "I love the Pilbara and our community."

Regional Development Australia Pilbara chief executive and former local government minister Tony Simpson is also running for mayor.

His vision is to join forces with State and Federal entities to progress childcare, health and housing solutions.

"I would work to draw major brand investments in retail and leisure to provide more options for residents. Identify land for a

foreshore entertainment hub and infuse Karratha with festivals and quality entertainment," he said.

Brenton Johannsen — who ran for the seat of Durack at the recent Federal election under One Nation — said he would donate the entire mayoral allowance to charity.

"I will be a committed full-time mayor, my goal is to visit all businesses and resident groups on a regular basis to touch base and discuss any new issues," he said.

Mr Johannsen said his aims would be neighbourhood safety, more opportunities for locals, ratepayer discounts for local facilities, moving airport smokers' areas, and eco-friendly weed management.

As a sitting councillor, radio announcer, parent and former local business owner mayoral candidate Pablo Miller said he had got to know the people of Karratha.

"As your mayor, I will continue to not only listen but be a strong advocate for our community," he

said. Mr Johannsen said he was interested in expanding opportunities for young people and families, growing local and cultural tourism, supporting businesses and bolstering mental health services.

The owner of the North West Brewing Co Daniel Scott has a vision as mayor to grow Karratha's economy.

His plan is to create an education and sporting precinct between the TAFE and St Luke's College, with accommodation for secondary and tertiary students.

His plans also include a new home for the Pilbara Universities Centre, and a sporting hub for rugby, soccer, hockey and gymnastics.

Those running for council include Daniel Scott, Kieran Dart, Wayne Mothershaw, Mr Johannsen, Sarah Roots, George Levisianos, Bradley Davey, Mr Simpson, James Corea, Joseph Almonte and Geoff Harris.

Elections will be held for the four vacancies on October 21st.



FIND OUT MORE ABOUT OUR PROPOSED ACTIVITIES

ARE YOU INTERESTED IN WHAT WOODSIDE HAS PLANNED ON LAND AND SEA?

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed projects.

Speak to our friendly team members at one of our four sessions in September.

Monday, 18 September 2023
Between 8.00am - 12.00pm
Karratha Shopping Centre
Sharpe Avenue
Karratha

Monday, 18 September 2023
Between 3.00pm - 6.00pm
Red Earth Arts Precinct
27 Welcome Road
Karratha

Tuesday, 19 September 2023
Between 10.00am - 5.00pm
South Hedland Square
9-31 Throssell Road
South Hedland

Wednesday, 20 September 2023
Between 10.00am - 4.00pm
Woodside Office
39 Roe Street
Roebourne



You can access our consultation information, provide feedback and subscribe for updates by scanning the QR code.



ONSLOW

Business Excellence Awards

Cocktail Celebration

Saturday 16th September, 2023
at Onslow Beach Resort

A fabulous stand up cocktail event with canapes and drinks from 5:30pm

Award presentations from 7pm

Live entertainment post award presentations

Tickets

Purchase your tickets online:
<https://OCCIBusinessAwards2023.eventbrite.com.au>



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 954 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Social Media – 6 to 16 September 2023

Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Karratha.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed projects.

Monday, 18 September 2023

Between 8.00am - 12.00pm
Karratha Shopping Centre
Sharpe Avenue
Karratha

Between 3.00pm - 6.00pm
Red Earth Arts Precinct
27 Welcome Road
Karratha



Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Port Hedland.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed projects.

Tuesday, 19 September 2023

Between 10.00am - 5.00pm
South Hedland Square
9-31 Throssell Road
South Hedland



Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Roebourne.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed projects.

Wednesday, 20 September 2023

Between 10.00am - 4.00pm
Woodside Office, Roebourne
39 Roe Street
Roebourne



Social media reach:

Location	Reach
Karratha	22,095
Port Hedland	26, 487
Roebourne	22,134

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

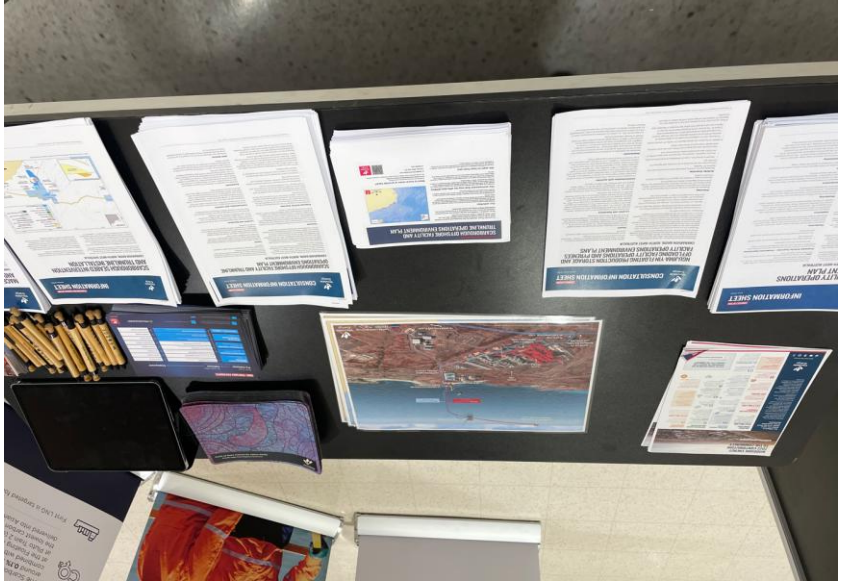
Controlled Ref No: PYHSE-E-001

Revision: 5

Page 955 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Karratha Shopping Centre, Karratha – 18 September 2023



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

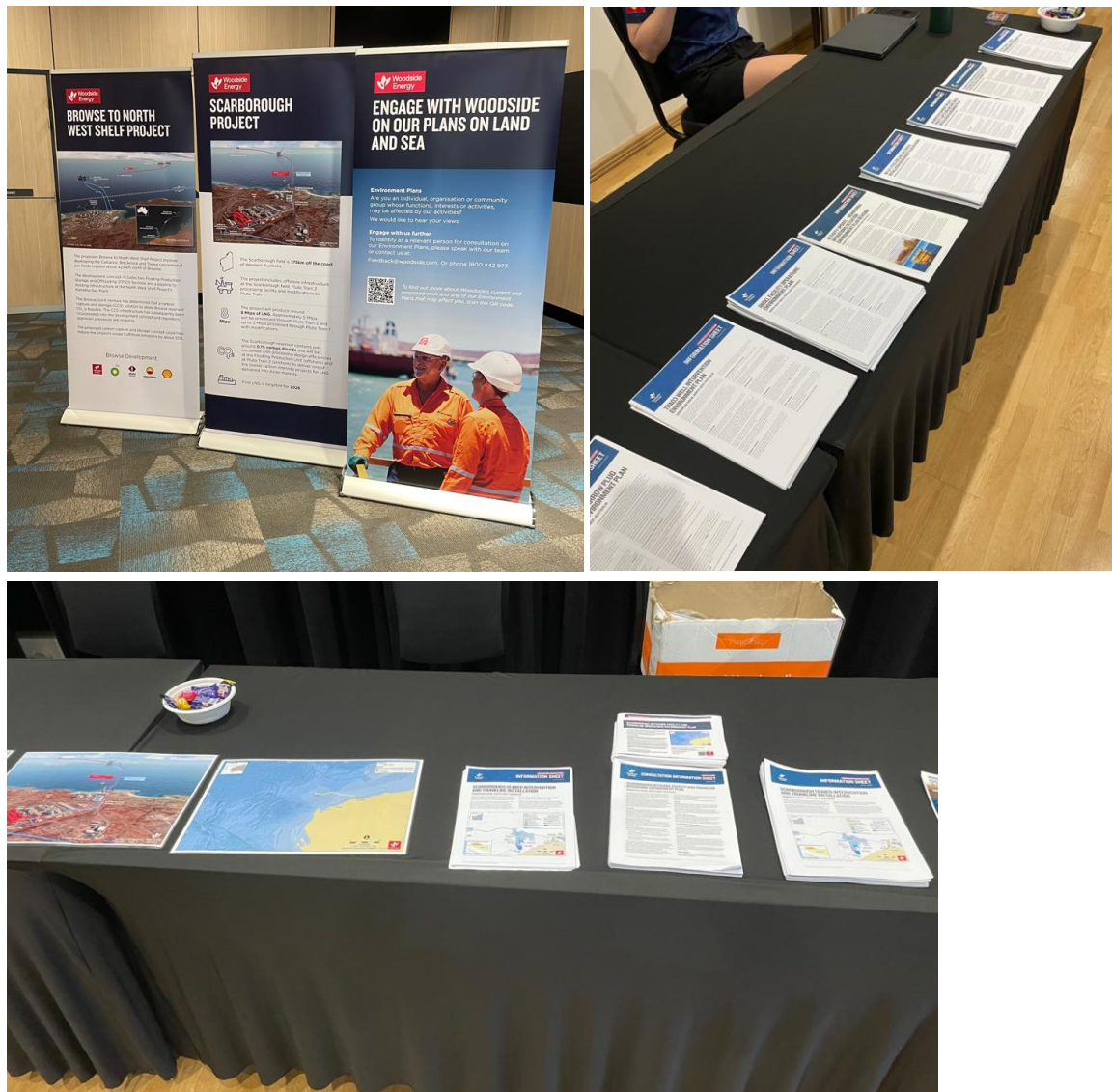
Controlled Ref No: PYHSE-E-001

Revision: 5

Page 956 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Red Earth Arts Precinct, Karratha – 18 September 2023



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

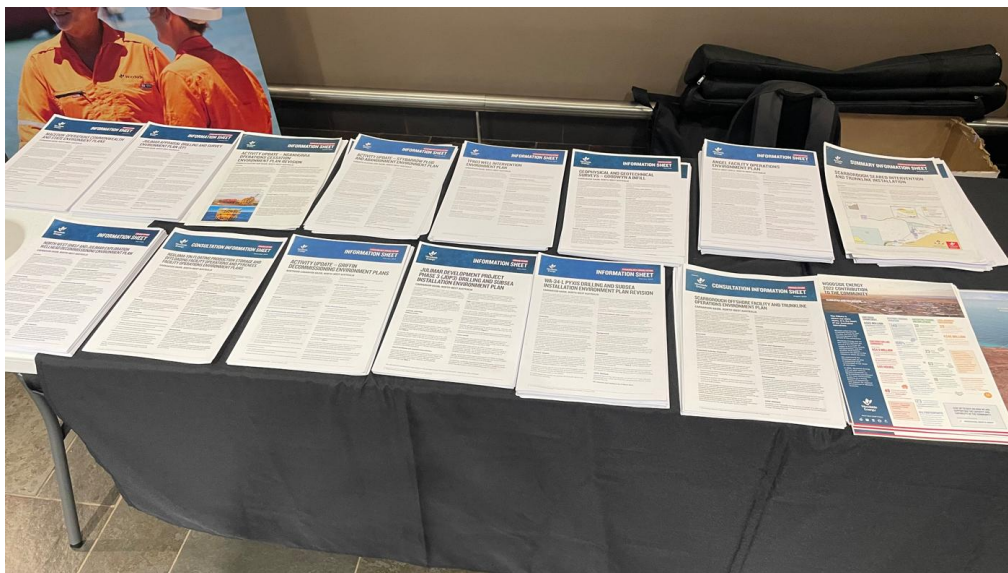
Controlled Ref No: PYHSE-E-001

Revision: 5

Page 957 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

South Hedland Square, Port Hedland – 19 September 2023



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 958 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside Office, Roebourne – 20 September 2023



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 959 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.3.2 Pilbara Summit – 10 and 11 October 2023

Activity	Pilbara Summit 2023
Location	Karratha
Date	10 – 11 October 2023
Description of the consultation	Woodside hosted a stand at Pilbara Summit 2023 a sold-out conference established to raise the profile of issues and opportunities in the Pilbara region. The event provides the opportunity for the Pilbara region's industry, investors, businesses, community, and government representatives to connect. The stand was staffed by members from Woodside's Corporate Affairs, Supply Chain and New Energy teams. Woodside displayed a QR code on the stand, linked to the consultation activities page of the Woodside website. Woodside also made available printed Consultation Information Sheets on the Pyrenees Facility Operations Environment Plan.
Advertising and invitations	No advertising was undertaken. The Vice President for Pluto and Scarborough delivered a speech during the conference, which highlighted the important role the Pilbara region will continue to play in the energy transition. Attendees were invited to find out more about Woodside's projects, developments or environment plans by speaking team members on the Woodside conference stand or to visit Woodside's town office based in The Quarter.
Estimated number of individuals / organisations consulted	Over 600 people attended the event over 2 days
Summary of Feedback, Objection or Claim Approximately 25 conversations occurred around new energy opportunities and plans, local content, social investment, Chevron's involvement in NWSP, Onslow operations and Scarborough project and approvals in general. No feedback was received regarding Woodside's Environment Plans.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response This session forms part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Woodside information stand – 10-11 October 2023

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 960 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.



5.3.3 Community information sessions – Carnarvon and Denham – 16 and 17 October 2023

Location	Carnarvon and Denham - Community Consultation Roadshow
Date	16 and 17 October 2023
Description of the consultation	Woodside hosted community consultation sessions in Carnarvon and Denham to enable community members to understand Woodside's proposed activities and how it may affect them, ask questions, and provide their feedback.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 961 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Woodside Project, Corporate Affairs and Environment representatives were available to answer questions. A number of Environment Plan Consultation Information Sheets were available to attendees including the Pyrenees Facility Operations Consultation Information Sheet.
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: • Advertisement in the Pilbara News on 4 October 2023 (see below). • Geotargeted social media campaign advertising in Carnarvon and Denham and surrounding areas (+80 kms) from 9 to 16 October 2023 (see below). • An EP consultation banner with QR code (linked to the Consultation Activities page on the Woodside website), and Scarborough Project banner were displayed along with current EP factsheets (see below).
Estimated number of individuals / organisations consulted	Carnarvon – 3 Denham – 2 (Shire of Shark Bay)
Summary of Feedback, Objection or Claim	
Community members were able to engage with Woodside representatives to understand the proposed activity and how it may affect them, ask questions, and provide their feedback. • General interest in Woodside activities in the Pilbara • Discussion with the Shire of Shark Bay: ○ Explained purpose of consultation for EPs ○ Noted consultation based on an EMBA and no activities planned in Shark Bay ○ Provided an overview of Woodside activities ○ Shire advised it will provide a list of other relevant persons to consult, recognising the need to consult the community more broadly	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims. The community information sessions were part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Pilbara News Advertisement – 4 October 2023

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 962 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Pilbara NEWS
Wednesday, October 4, 2023

pilbaranews.com.au

NEWS 13

MinRes in \$24m deal with local company

DANIEL SPENCE

Local Pilbara Indigenous-owned business Djoleanna Pty Ltd has been awarded a \$24 million contract by Mineral Resources as part of the company's flagship Onslow Iron project.

It is the largest contract MinRes has ever signed with an Indigenous-owned business, as well as the first contract awarded to Djoleanna Pty Ltd, which is a Rohe River Kuruma business. The Rohe River Kuruma people are the traditional owners of the land on which the Kan's Bore mine site is located.

The four-year contract is for exploration, earthworks at Kan's Bore mine site, east of Onslow, including constructing access tracks, building drill pads, road maintenance and general earthworks.

Djoleanna Pty Ltd will employ about 10 people as



MinRes managing director Chris Ellison and Djoleanna business owner Bevan Wally. Picture: Russell James

part of the contract including a project manager, mechanics, operators and administration staff.

Djoleanna Pty Ltd owner Bevan Wally, who grew up on country, said: "The support provided by MinRes has given us the confidence and capacity to help establish and grow our business. MinRes have shown us action and given us commitments. It's unusual for them to invest and give us a go."

MinRes managing director Chris Ellison said that the company was proud to

partner with businesses such as Djoleanna that had such a strong connection to country.

"Providing practical guidance and support, such as guaranteeing finance for equipment and plant, helps to build local capability and ensure Indigenous-owned businesses share in our success," he said.

At the contract signing ceremony in Perth, Mr Wally presented traditional gifts to Mr Ellison, including boomerangs, a shield and a long stick.

Schools to get a staff cash boost

DANIEL SPENCE

Pilbara schools will benefit from a multi-million-dollar cash injection from the State Government to recruit and retain staff.

Education Minister Tony Buti said the success of last year's temporary Regional Attraction and Incentive Package meant an additional 18 schools would benefit from \$15.49 million worth of incentive packages.

Schools in the Pilbara who will receive a boost include Broome Senior High School, Carnarvon Community

College, Kurratha Senior High School, Hedland Senior High School, Tum Price Senior High School and Newman Senior High School.

The incentive helps rural schools to attract and recruit teachers and retain staff and school administrators at schools by providing additional financial incentives.

Staff members will receive between \$6000 and \$17,000 for working in rural and remote public schools for the 2024 school year.

The incentives will be paid

in two instalments: the first at the start of the 2024 school year, the balance paid at the end of the 2024 school year.

Dr Buti said schools in regional and remote areas faced additional challenges when recruiting and retaining teachers.

"This significant investment will bring greater continuity for regional and remote students, their families, and the whole community," he said. The temporary Regional Attraction and Retention Incentive was initially allocated to 48 regional and remote schools.



SUPPORTING OUR LOCAL COMMUNITIES

The MinRes Community Fund supports our commitment to making meaningful contributions to the communities in which we operate.

Grants of up to \$10,000 are available to eligible local organisations to support programs and events that help create strong, vibrant and healthy communities.

Applications are open to groups operating in the Pilbara and Goldfields-Esperance regions or within the Shires of Yilgarn, Irwin and Mingenew.

Applications accepted between 1 to 31 October 2023.

TO APPLY

visit mineralresources.com.au/our-sustainability/community or email communities@mri.com.au



FIND OUT MORE ABOUT OUR PROPOSED ACTIVITIES

ARE YOU INTERESTED IN WHAT WOODSIDE HAS PLANNED ON LAND AND SEA?

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Speak to our friendly team members at one of our sessions in October.

Monday, 16 October 2023
Between 10:00am - 2:00pm
Gwoonardu Mia
146 Robinson Street
Carnarvon

Tuesday, 17 October 2023
Between 9:00am - 1:00pm
Denham Town Hall
Hughes Street
Denham



You can access our consultation information, provide feedback and subscribe for updates by scanning the QR code.



Government of Western Australia
Department of Health

Fluoridation for the Newman drinking water system

Community water fluoridation helps protect teeth against decay and is a safe and effective way of improving oral health. More than 92 per cent of the Western Australian population, including the Perth metropolitan area and most large regional communities in the Pilbara and other parts of Western Australia, has benefited from fluoridation of drinking water for more than 40 years.

Fluoridation equipment has been installed at the water treatment plant servicing Newman and is now operational. As with similar plants located throughout Western Australia, the Department of Health will monitor the performance of the water treatment plant to ensure compliance with the Australian Drinking Water Guidelines and the Fluoridation of Public Water Supplies Act 1966.

For more information please contact the Department of Health by email to shinib@health.wa.gov.au or call 08 9222 2000 or visit health.wa.gov.au and search fluoridation.

Dr Andrew Robertson

Chief Health Officer

Social media tiles and stories – 9 – 16 October 2023

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 963 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Carnarvon.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Monday, 16 October 2023

Between 10.00am - 2.00pm

Gwoonwardu Mia
146 Robinson Street
Carnarvon



Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Carnarvon.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Monday, 16 October 2023

Between 10.00am - 2.00pm

Gwoonwardu Mia
146 Robinson Street
Carnarvon



Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Denham.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Tuesday, 17 October 2023

Between 9.00am - 1.00pm

Denham Town Hall
Hughes Street
Denham



Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Denham.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Tuesday, 17 October 2023

Between 9.00am - 1.00pm

Denham Town Hall
Hughes Street
Denham



Banners and consultation sheets – Carnarvon - 16 October 2023

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 964 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.



Banner – Denham – 17 October 2023

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 965 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.



5.3.4 Dampier Beachside Twilight Markets – 4 November 2023

Activity	Dampier Beachside Twilight Markets
Location	Dampier, Hampton Oval
Date	4 November 2023
Description of the consultation	Woodside hosted a stand at the Dampier Night Markets a community event bringing together local businesses selling a vast array of product types, a variety of food vendors and community groups. The stand was staffed by members from Woodside's Corporate Affairs, First Nations, and Environment teams. Woodside displayed a QR code on the stand, linked to the consultation activities page of the Woodside website. Woodside made available printed consultation information sheets on the Pyrenees FPSO Facility Operations EP. An iPad with consultation/feedback subscription prompt was made available
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: • Advertisement in the Pilbara News on 1 November 2023 (see below). • Social media posts were published inviting public to attend on Woodside North West Facebook page and Dampier Community Associations Beachside Markets Facebook page (see below). • An EP consultation banner with QR code (linked to the Consultation Activities page on the Woodside website), and Scarborough Project banner were displayed at Woodside's stand along with current EP factsheets (see below).
Estimated number of	Over 1000 community members (Dampier Community Association) attended the event Woodside spoke to many community members, recording 14 conversations

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 966 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

individuals / organisations consulted	
Summary of Feedback, Objection or Claim	
(1) General queries around employment and local content opportunities. (2) General interest in Pluto Train 2 progress and Scarborough project and trunkline location. (3) Query around fauna activity mitigations. Woodside staff discussed whale migration research and vessel whale spotters. (4) Woodside social investment activities. (5) EP approval process discussed, NOPSEMA's role, what an EMBA is and why we want to talk to community.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims. The community information sessions were part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 967 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Pilbara News Advertisement – 1 November 2023

Pilbara NEWS
Wednesday, November 1, 2023

NEWS 9

Hard work earns Zane Walkington scholarship

DANIEL SPENCE

St Luke's College Year 12 student Zane Goes has been awarded the City of Karratha 2023 Walkington Award for his academic achievements and outstanding citizenship.

This is the 40th time the award, valued at \$5000, has been given to a Year 12 student within the City of Karratha to continue full-time or part-time tertiary studies.

Zane is a sports captain and member of St Luke's student executive council.

As part of his role he has run new initiatives such as the Father's Day breakfast, men's mental health day, International Women's Day and the school busy bee.

Zane will use the \$5000 award from the City of Karratha to support his studies in physiotherapy.

Former city of Karratha Mayor Peter Long congratulated this year's recipient and all applicants for their outstanding achievements.

"The Walkington Award has a proud history of supporting local students who embody the three pillars of academic excellence, extra-



Zane Goes receives his award from the outgoing mayor of Karratha Peter Long.

curricular activities and community service," he said. "We are beyond proud of the leadership, commitment and accountability our young people demonstrate and the significant contribution they make to our community." He said Zane was a hard working student who

had achieved stand-out results including Academic Excellence Awards in Years 11 and 12.

"I would like to wish Zane all the best on his studies as he pursues his dream to be a physiotherapist and hope to one day see him practice in Karratha."

EV charging stations open

DANIEL SPENCE

Electric vehicle fast chargers have been installed in Karratha, Exmouth and Kununurra as part of the WA EV Network extending into the Pilbara.

The stations are the first of six planned to be installed by mid-2024.

The WA EV Network is being delivered by Horizon Power and Synergy as part of the State Government's \$13.5 million investment to boost EV infrastructure and includes 180 charging stations in 49 locations connecting Perth to regional WA. When complete, the \$21m network will stretch more than 7000km which will help to make clean transportation more accessible in WA.

The charging sites have a 150kW fast charger that allows drivers to charge their vehicles in 20 minutes.

The charging station in Exmouth has an additional DC fast charger allowing four EVs to be charged at the same time.

The WA EV Network will stretch north to Kununurra, along the south-west coast to Esperance and



Horizon Power's Cameron Parrotte with member for Pilbara Kevin Michel. Picture: Marg Bertling

east to Kalgoorlie and Eucla which is due to be completed next year.

As part of the project, Horizon Power is installing EV fast chargers at 27 of these locations across regional and remote WA.

Executive GM, engineering & project delivery at Horizon Power Cameron Parrotte in his speech at the opening of the charging station said it was hoped the project was the start of something bigger.

"It's not until you can get about 200km and be able to charge with confidence that we know we can bring these stations to this part of the country. It's great to see Red Dog renewables

hiring the cars for their employees to use," he said.

"This is site No.5 going live and around October next year we will have 27 new locations complete."

There have been more than 5200 charging sessions along the WA EV Network since the first charging site went live in Geraldton in April 2023.

Energy Minister Bill Johnston said WA's transition to a cleaner, greener electric vehicle future was well under way.

"We are delighted Karratha, Exmouth and Kununurra have joined the WA EV Network, with many more fast chargers opening soon," he said.



MHS Annual General Meeting

ACN: 139453348

ADVERT

All Members are welcome to attend with lunch provided. It is to be held:

Date: Monday, 27 November 2023

Time: 10:00am

Location: 20 Sholl Street, Roebourne

Members will be sent a copy of the agenda...

FACTORY DIRECT SEAFOOD

FISH • SCAMPI • PRAWNS • SCALLOPS • OYSTERS • BAIT • ICE



Westmore Seafoods

0458971587 • f @factorydirectseafood

greg@westmoreseafoods.com

Bill Miller Drive, Johns Creek Boat Harbour Point Samson WA



FIND OUT MORE ABOUT OUR PROPOSED ACTIVITIES

ARE YOU INTERESTED IN WHAT WOODSIDE HAS PLANNED ON LAND AND SEA?

Stop by and say hello to our friendly team in Dampier to find out more and share your feedback about Woodside's work in the North West, our Environment Plans and our current and proposed projects, including Scarborough and Browse.

We'd like to consult relevant persons in the course of preparing our Environment Plans to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that may be taken to lessen or avoid potential adverse effects of the proposed activity on the environment. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Dampier Beachside Markets
Saturday, 4 November 2023
Between 5.30 pm to 8.30 pm
Hampton Oval, Dampier, WA

You can also access our consultation information and provide feedback by scanning the QR code.



Woodside Energy

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

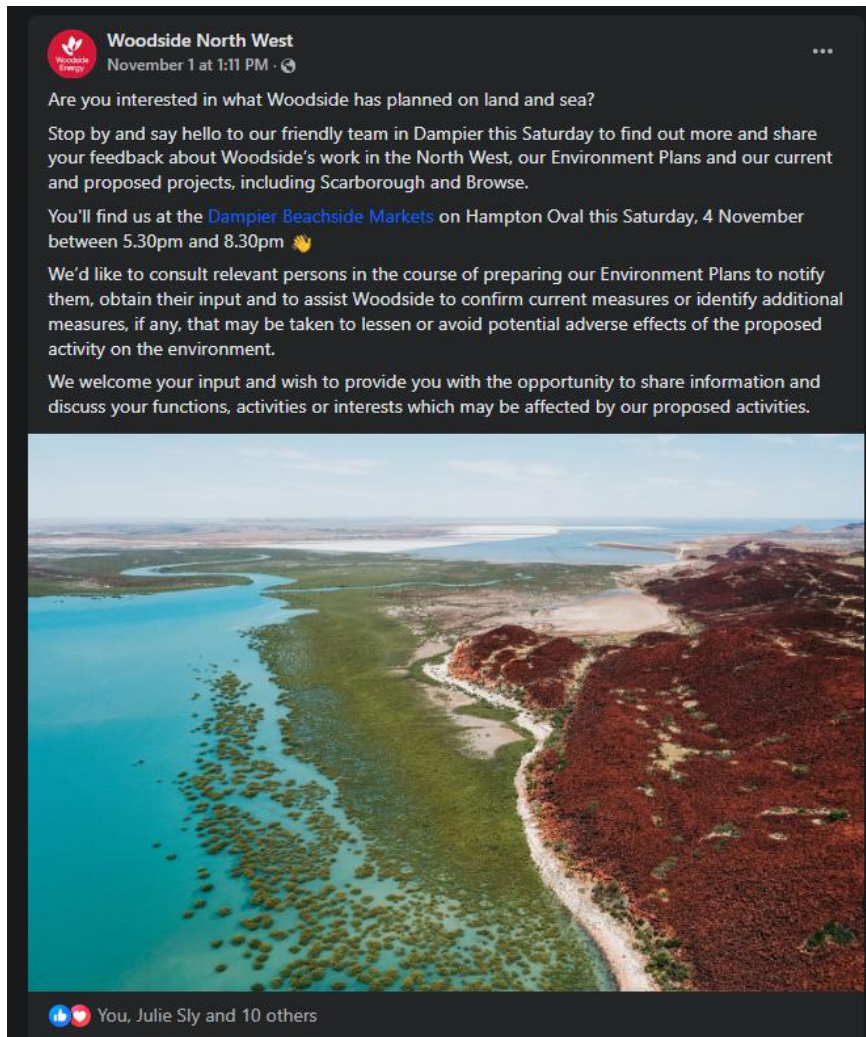
Controlled Ref No: PYHSE-E-001

Revision: 5

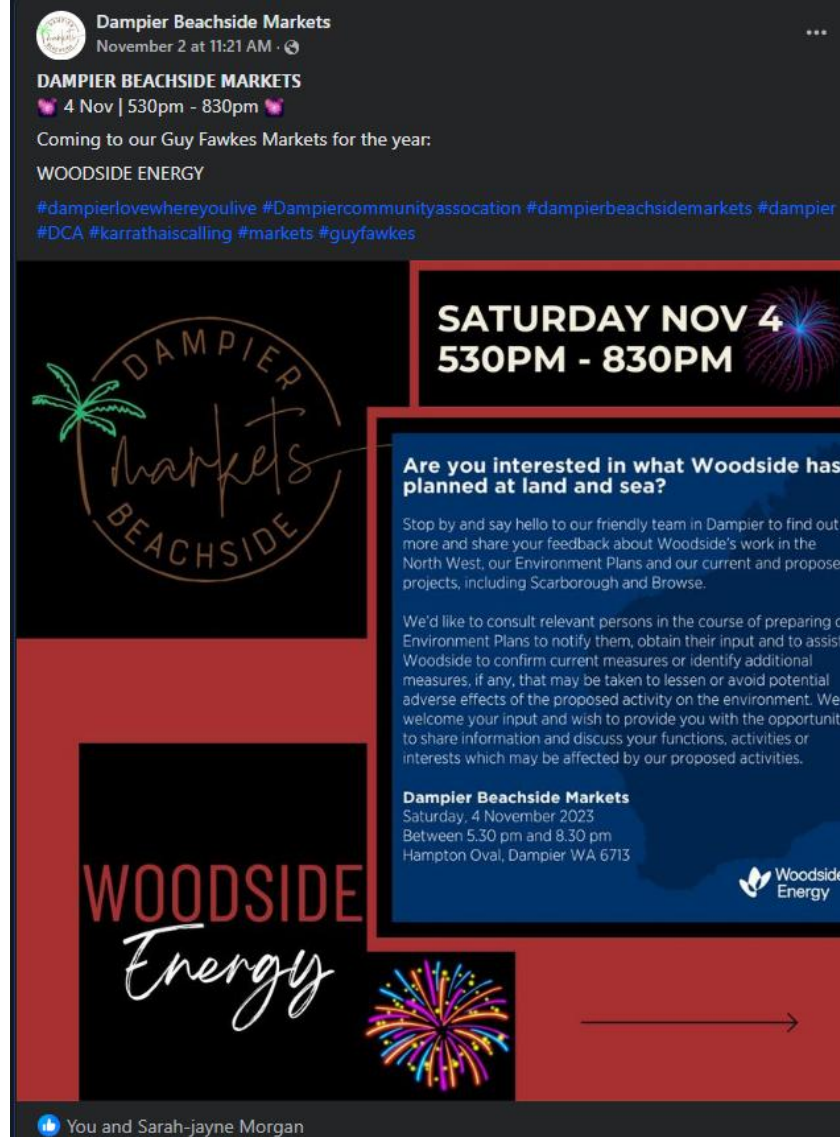
Page 968 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Facebook post – Woodside North West page – 1 November 2023



Facebook post – Dampier Beachside Markets – 2 November 2023



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 970 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside event stand – 4 November 2023



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 971 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 972 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.3.5 Dampier Seaside Markets – 24 March 2024

Location	North West Shelf Visitor Centre
Activity	Community information sessions
Location	North West Shelf Visitor Centre
Date	3 April 2024 and 10 April 2024
Description of the consultation	Woodside hosted community consultation at the North West Shelf Visitor to enable community members to understand Woodside's proposed activities and how it may affect them, ask questions, and provide their feedback. Woodside Corporate Affairs representatives were available to answer questions. A number of Environment Plan Consultation Information Sheets were available to attendees including the Pyrenees Facility Operations EP.
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: • Social – organic (see below) • An EP consultation banner with QR code (linked to the 'Consultation activities' page on the Woodside website), Scarborough Project banner were displayed stand along with current EP factsheets (see below).
Estimated number of individuals / organisations consulted	Woodside spoke to many community members, recording 7 conversations. 3 April – 17 community / public visitors 10 April – 23 community / public visitors
Summary of Feedback, Objection or Claim	
• General queries about gas production by Woodside operated Karratha Gas Plant. • Environment Plan awareness building with multiple conversations on "What is an Environment Plan?" and "What is an EMBA?". • Awareness of the Scarborough Energy Project with queries around location of the FPU, exclusion zones and impacts to marine life.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims. The community information sessions were part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

North West Shelf Visitor Centre pop-up – 3 April 2024



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

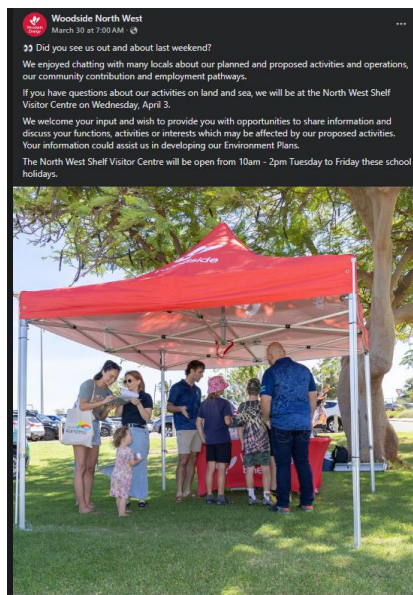
Controlled Ref No: PYHSE-E-001

Revision: 5

Page 974 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Facebook North West post – 30 March 2024



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 975 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

9 April 2023 – Facebook North West post

Woodside North West
17h · 🌐

Want to know more about what Woodside has planned at land and sea, PLUS keep the kids entertained over the school holidays?

The North West Shelf Visitors Centre is open from 10am - 2pm Tuesday to Friday this week. Join us tomorrow, Wednesday, 10 April to talk about our Environment Plans and learn about the Karratha Gas Plant.

We welcome your input and wish to provide you with opportunities to share information and discuss your functions, activities or interests which may be affected by our proposed projects. Your information could assist us in developing our Environment Plans.



5.3.6 WA Day Festival – 15 June 2024

Location	Dampier
Activity	WA Day Festival
Date	15 June 2024
Description of the consultation	Woodside hosted a stand at the WA Day Festival organised by Celebrate WA. The event featured a drone show, food stalls, live music, sideshow stalls and interactive exhibits. The stand was staffed by members from Woodside's Corporate Affairs, First Nations and Environment team. Woodside displayed a QR code on the stand, linked to the 'Consultation activities' page of the Woodside website.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 976 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Woodside made available printed consultation information sheets on the Pyrenees Facility Operations EP.
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: • Advertisement in the KDCCI e-newsletter distributed 5 June 2024 (see below). • Social media posts were published inviting public to attend on Woodside North West Facebook page (see below). • Celebrate WA advertised the event via TV commercials, radio advertisement and in print. • An EP consultation banner with QR code (linked to the 'Consultation activities' page on the Woodside website), and Scarborough Project banner were displayed at Woodside's stand along with current EP factsheets (see below).
Estimated number of individuals / organisations consulted	Over 2000 community members (Celebrate WA) attended the event. Woodside spoke to many community members, recording 15 conversations.
Summary of Feedback, Objection or Claim	
• General queries around employment and volunteer opportunities. • General positive commentary from community members working at Woodside or on Woodside projects. • General interest in Scarborough and Browse progress and the future of gas in the energy transition. • General query around tax contributions. • EP approval process discussed and why we want to talk to community. No concerns raised.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims. The community information sessions were part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Advertising – social media, e-newsletter and Woodside information stand



Are you interested in what Woodside has planned at land and sea?

We'd like to consult relevant persons in the course of preparing Environment Plans to notify them, obtain their input and to avoid Woodside to confirm current measures or identify additional measures, if any, that may be taken to lessen or avoid potential adverse effects of the proposed activity on the environment.

We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed projects.

WA Day Festival
Saturday, 15 June 2024
Between 4 pm – 8.30 pm
Karratha Oval, Dampier

 Woodside Energy

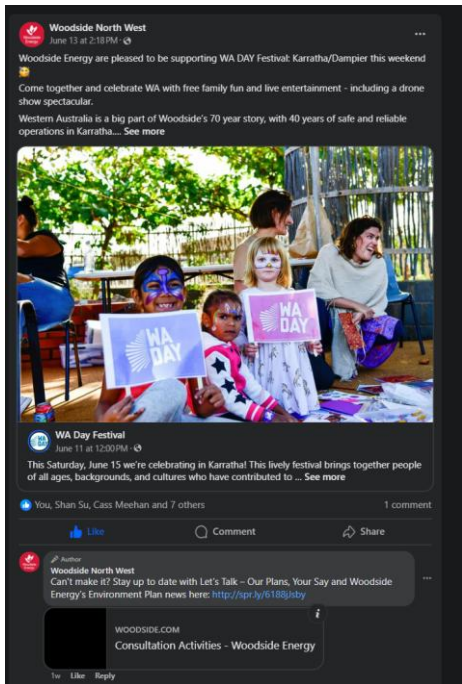
If you're interested in finding out more about what **Woodside** is doing on land, sea and in the community, stop by and say hi at the [WA Day Festival](#).

The **free** festival features a drone show display, live music, food stalls, and family fun. As one of the Regional Presenting Partners, Woodside's friendly team will be there to chat about our work in the North West, our current and proposed projects and our Environment Plans.

Can't make it?

Stay up to date with Let's Talk – Our Plans, Your Say or provide your feedback here at the button below.

[Feedback Here](#)






This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 978 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.



5.3.7 Pilbara Summit – 26 to 27 June 2024

Location	Karratha
Activity	Pilbara Summit 2024
Date	25-26 June 2024
Description of the consultation	Woodside hosted a stand at Pilbara Summit 2024, a sold-out conference established to raise the profile of issues and opportunities in the Pilbara region. The event provides the opportunity for the Pilbara region's industry, investors, businesses, community, and government representatives to connect. The stand was staffed by members from Woodside's Corporate Affairs, Government Affairs, First Nations, Supply Chain and New Energy teams. Woodside displayed a QR code on the stand, linked to the Let's Talk EP newsletter on the Woodside consultation page of the website. A pull-up banner was on display focusing on engagement on our plans at land and sea with a QR code to the consultation page on the

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

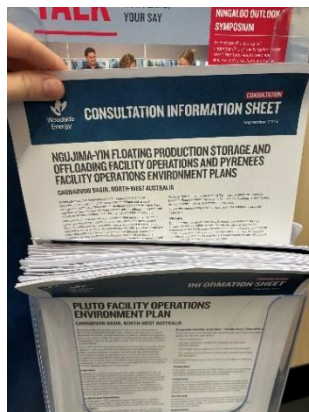
Controlled Ref No: PYHSE-E-001

Revision: 5

Page 979 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	Woodside website. Woodside made available printed consultation information sheets on the Pyrenees Facility Operations EP.
Advertising and invitations	No advertising was undertaken. The Vice President for North West Shelf delivered a speech during the conference, which highlighted the important role that Woodside will continue to play in the energy transition. In addition a representative from Woodside's CCS team was part of a panel discussion on Decarbonisation – moving to net zero discussing the role of CCS, opportunities for growth, new business and the best approach to renewable and lower carbon industries. Attendees were invited to find out more about Woodside's projects, developments or environment plans by speaking team members on the Woodside conference stand or to visit Woodside's town office based in The Quarter.
Estimated number of individuals / organisations consulted	Over 600 people attended in person event over 2 days
Summary of Feedback, Objection or Claim - Approximately 10 conversations occurred around new energy opportunities and plans, local content, social investment, EMBA's (relating to EPs) and approvals in general. - No feedback was received regarding Woodside's Environment Plans.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
This session forms part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2 of the EP).	



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 981 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.3.8 Community pop-up at Lo's Cafe – 26 July 2024

Location	Karratha
Activity	Community pop-up at Lo's Cafe
Date	26 July 2024
Description of the consultation	Woodside hosted a stand in the community to coincide with Woodside's 70th birthday and 40 years of safe operations in Karratha. Members of Woodside's Corporate Affairs team actively engaged with the community to discuss proposed Environment Plan activities and general community engagement discussion. Woodside displayed a QR code on the stand, linked to the Let's Talk EP newsletter on the Woodside consultation page of the website. A pull-up banner was on display focusing on engagement on our plans at land and sea with a QR code to the consultation page on the Woodside website. Woodside made available printed consultation information sheets on the Pyrenees Facility Operations EP.
Advertising and invitations	Woodside advertised this engagement on social media only. Social media post was advertised on Woodside North West Facebook page on 26 July 2024. An EP consultation banner with QR code (linked to the 'Consultation activities' page on the Woodside website) was displayed at Woodside's stand along with current EP factsheets (see below).
Estimated number of individuals / organisations consulted	Over 60 community members attended the event. Woodside spoke to many community members, recording 10 conversations.
Summary of Feedback, Objection or Claim - Approximately 10 conversations occurred around employment opportunities and pathways, social investment, the Environment Plan process and approvals in general. - No feedback was received regarding Woodside's Environment Plans.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
This session forms part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2 of the EP).	

Woodside information stand



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

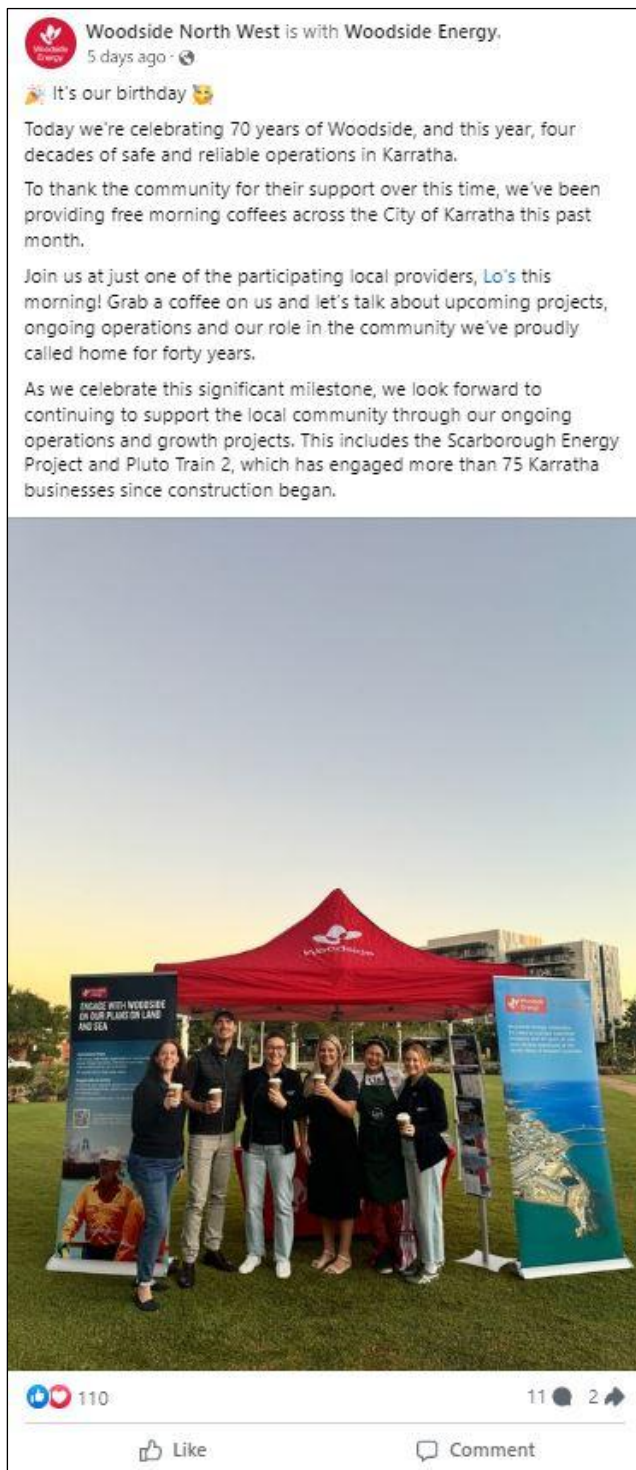
Controlled Ref No: PYHSE-E-001

Revision: 5

Page 983 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Social media post on Woodside North West Facebook



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

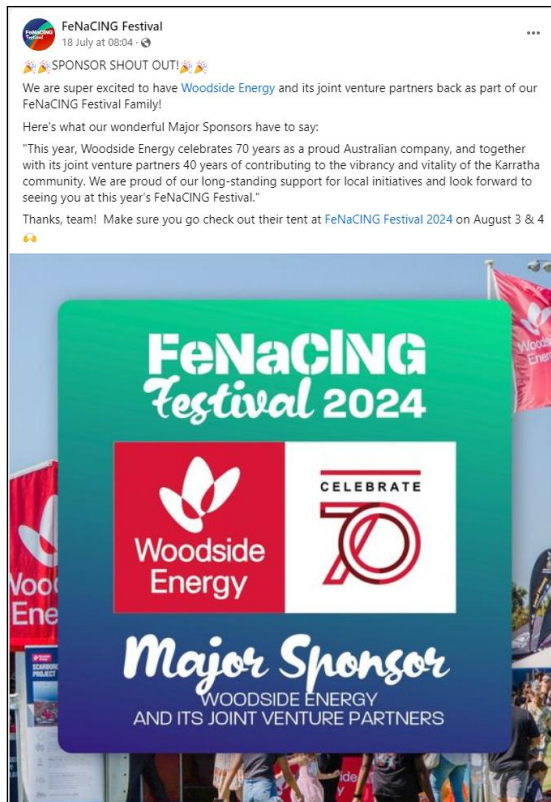
Page 984 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.3.9 FeNaCING Festival – 3 to 4 August 2024

Location	Karratha
Activity	FeNaCING Festival
Date	3-4 August 2024
Description of the consultation	Woodside hosted a stand at the FeNaCING Festival 2024. Members of Woodside's Corporate Affairs, Environment and Operations teams actively engaged with the community to discuss proposed Environment Plan activities. Woodside displayed a QR code on the stand, linked to the Let's Talk EP newsletter on the Woodside consultation page of the website. A pull-up banner was on display focusing on engagement on our plans at land and sea with a QR code to the consultation page on the Woodside website. Woodside made available printed consultation information sheets on Pyrenees Facility Operations EP.
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: • Social media post was advertised on the City of Karratha and FeNaCING Festival Facebook page on 18 July 2024 (see below). • Social media post was advertised on the Woodside North West Facebook page (see below). • FeNaCING Festival lift-out in the Pilbara News on 31 July 2024 (see below). An EP consultation banner with QR code (linked to the 'Consultation activities' page on the Woodside website) was on display outside the Woodside Marquee, and EP factsheets were displayed, and provided in the Woodside Marquee (see below).
Estimated number of individuals / organisations consulted	More than 10 000 community members (City of Karratha) attended the event. Woodside spoke to many community members, recording 30 conversations.
Summary of Feedback, Objection or Claim • Approximately 10 conversations occurred around new energy opportunities and plans. • Other conversations included: ○ Local content ○ Social investment ○ General understanding of an EMBA ○ Approvals status for Browse and Scarborough ○ The future of the Karratha Gas Plant assets future ○ How oil and gas is produced ○ Tax and royalties. • No feedback was received regarding specific Environment Plans.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
Woodside's participation at FeNaCING forms part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2 of the EP).	

City of Karratha managed FeNaCING Festival FaceBook page – 18 July 2024



Newspaper advertisements

Date: 31 July 2024

Where: Pilbara News – Woodside Sponsored - FeNaCING Festival lift out

Full Page

Quarter Page

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 986 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.



WE'RE JOINING IN THE FUN AT FENACING FESTIVAL

This year, Woodside Energy celebrates 70 years as a proud Australian company, and together with our joint venture partners 40 years of contributing to the vibrancy and vitality of the Karratha community.

We are proud of our long-standing support for local initiatives and look forward to seeing you at this year's FeNaCING Festival.

Follow us @woodsidenorthwest
www.woodside.com



PROVIDE YOUR FEEDBACK AT FeNaCING FESTIVAL

Are you interested in Woodside's proposed activities and operations?

If so, let's talk about our Environment Plans at FeNaCING Festival. We'll be at the Woodside marquee from 10 am - 4 pm, Saturday 3 August and Sunday 4 August, 2024.

If you are an individual, organisation or community group whose functions, interests or activities may be affected by our proposed activities and operations, we want to talk to you.

Find out more or provide feedback:
Phone: 1800 442 077
Email: consultation@feedback.woodside.com



Half Page



MAKE YOUR WAY TO THE WOODSIDE ENERGY CHILDREN'S MARQUEE

We are proud to partner with those in the City of Karratha who inspire our young people through education.

By collaborating with local community, schools and educators, we are providing opportunities for the next generation of bright minds.

We look forward to supporting the Woodside Energy Children's Marquee at this year's FeNaCING Festival.

Follow us @woodsidenorthwest
www.woodside.com



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 987 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Half Page Article and photo

WOODSIDE VOLUNTEERS MAKE VALUED CONTRIBUTIONS

Woodside takes pride in giving back to the communities in which they operate. One of the ways they do this is through their corporate volunteering program.

Since the launch of the program with Volunteering WA in 2010, Woodsiders have been lending a helping hand with all kinds of community projects.

Last year 340 Woodsiders spent 1500 hours volunteering with local community organisations as part of their Corporate Volunteering program. Most recently, volunteers have participated in a range of activities from cooking meals for The Salvation Army to building a sandpit at Gumala Early Learning Centre and assembling furniture for the redevelopment of Roebourne District High School.

Their program partner, Volunteering WA, plays a crucial role in the success of Woodside's volunteering efforts by connecting them with local organisations in need of assistance and facilitating the opportunities to participate.

Volunteering WA's Regional Community Engagement Coordinator, Kelly Nunn said the partnership has delivered some important outcomes for the local community.

"Corporate volunteering offers fantastic opportunities for community organisations to complete ongoing maintenance or projects with the help of Woodside's employees, allowing them to focus on what they do best - providing programs and events for our community," she said.



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 988 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

**PECTING CULTURE
HERITAGE**

With Indigenous in three decades

importance of engaging is to protect and manage

This includes protecting values of Wurundjeri, such as

rites, meetings and ceremonies

cultural landscape. Woodside

World Heritage listing of the

cultural landscape.

**PROVIDE YOUR FEEDBACK
AT FeNaCING FESTIVAL**

Are you interested in Woodside's proposed activities and operations?

Let's talk about our Environment Plans at FeNaCING Festival. We'll be at the Woodside Energy Marquee from 10:00am - 4:00pm, Saturday 3 August and Sunday 4 August, 2024.

If you are a individual, organisation or community group whose functions, interests or activities may be affected by our proposed operations and projects, we want to talk to you.

 Woodside Energy

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 989 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Social Media – Woodside North West Facebook account (via Stories) – 2 August 2024, 2pm



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 990 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Karratha Community Board at Karratha Lo's Cafe as at 26 July 2024



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

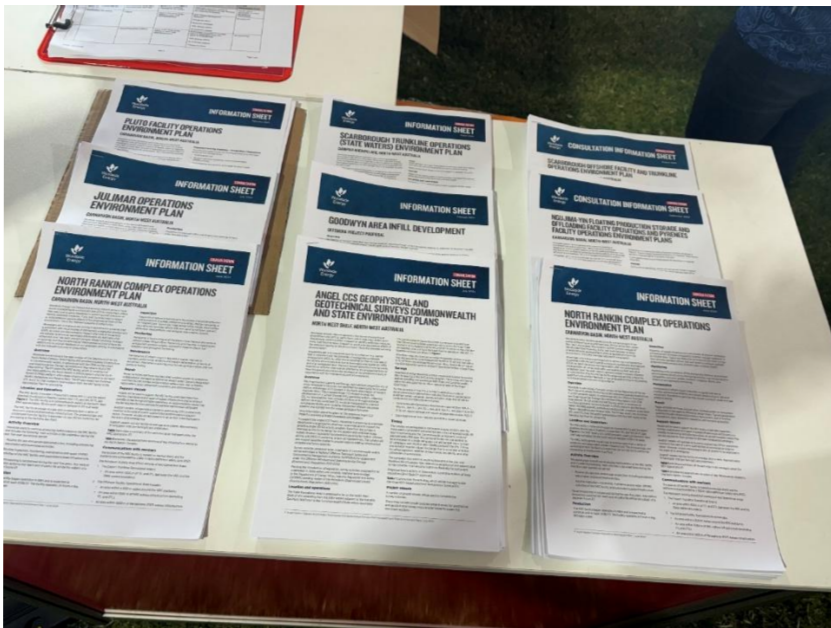
Controlled Ref No: PYHSE-E-001

Revision: 5

Page 991 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Banner on display at Woodside Marquee – FeNaCING Festival



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 992 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Consultation Information sheets on display at Woodside Marquee – FeNaCING Festival



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 993 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.3.10 Developing Northern Australia (DNA conference) – 26 to 28 August 2024

Location	Karratha
Activity	Developing Northern Australia (DNA) Conference
Date	26-28 August 2024
Description of the consultation	Woodside hosted an exhibition stand at the DNA Conference. Members of Woodside's Corporate Affairs team actively engaged with 400+ individuals, policy makers and decision makers attending the conference to discuss, amongst other things, EP activities. Woodside displayed a QR code, linked to the Let's Talk EP newsletter on the Woodside consultation page of the website. An iPad was available encouraging audience to view and subscribe to the consultation page on the Woodside website. Woodside made available consultation information sheets on Pyrenees Facility Operations EP.
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: Woodside advertised participation at the DNA Conference, the opportunity to consult and to enable individuals to self-identify, and enable individuals to provide feedback on proposed activities, through the following: • Social media post was advertised on the Developing Northern Australia Facebook page on 20 August 2024 (see below). EP consultation information sheets and copies of Let's Talk with QR codes linking to Consultation activities - Woodside Energy were displayed and provided (see below).
Estimated number of individuals / organisations consulted	Over 400 delegates attended the conference. Woodside spoke to many conference attendees, recording 20 conversations.
Summary of Feedback, Objection or Claim • Approximately 10 conversations occurred around new energy opportunities and plans. • Other conversations included: ○ Local content ○ Social investment ○ General understanding of an EMBA ○ How oil and gas is produced and the organisations future in energy transition ○ Price of gas for international project forecasting ○ Ai and simulation technology ○ Carbon sequestration • No feedback was received regarding specific Environment Plans.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response Woodside's participation at the DNA conference forms part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2 of the EP).	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

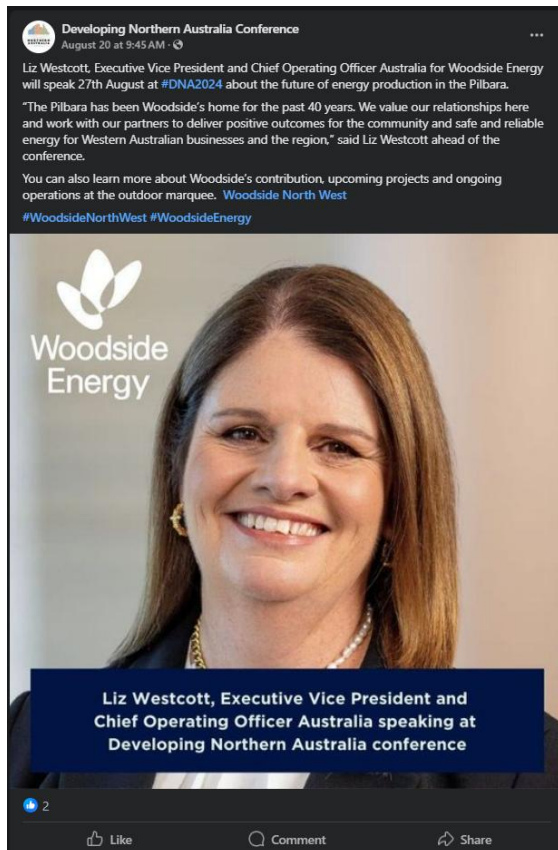
Controlled Ref No: PYHSE-E-001

Revision: 5

Page 994 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Social media advertising on Developing Northern Australia Facebook page – 20 August 2024



Woodside Stall at Development Northern Australia conference. EP material on display.



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

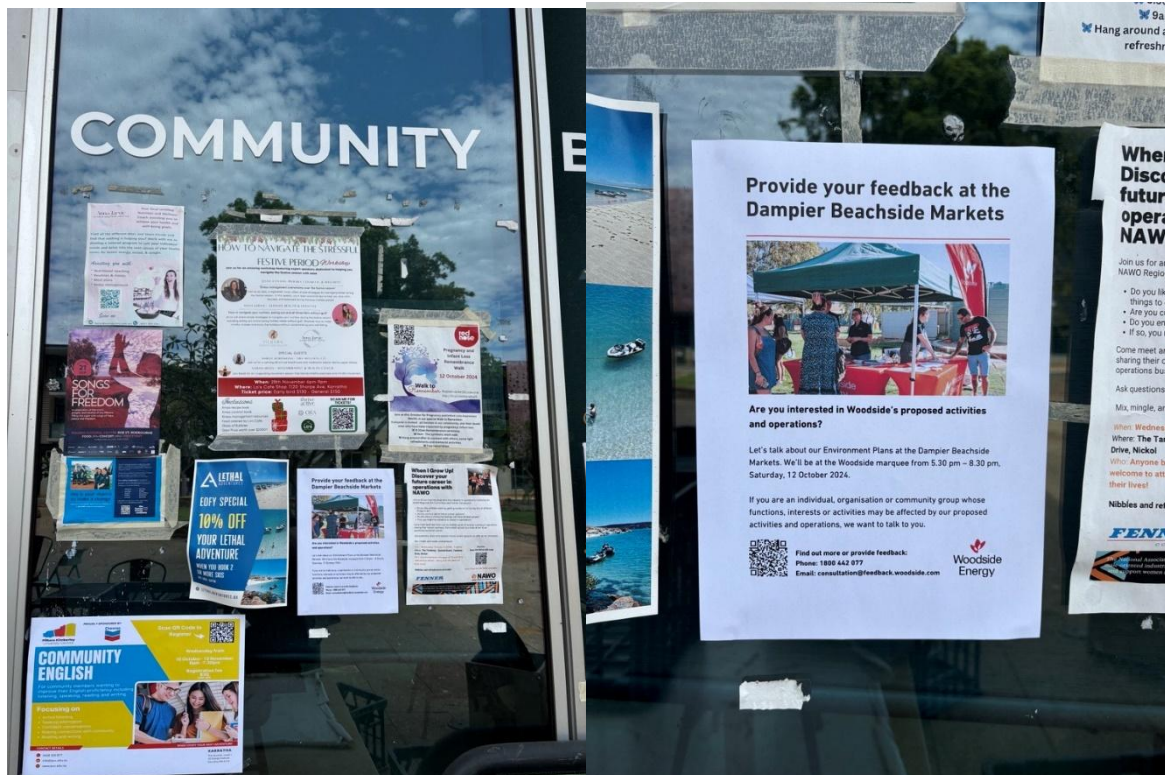
Page 995 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.3.11 Dampier Beachside Markets – 12 October 2024

Location	Dampier
Activity	Dampier Beachside Markets - Oktoberfest
Date	12 October 2024
Description of the consultation	Woodside hosted a stand at the Dampier Beachside Markets a community event bringing together local businesses selling local products, a variety of food vendors and community groups. The stand was staffed by members from Woodside's Corporate Affairs team. Woodside displayed a QR code on the stand, linked to the 'Consultation activities' page of the Woodside website. An iPad with consultation/feedback subscription prompt was made available. Woodside made available printed consultation information sheets on Pyrenees Facility Operations EP.
Advertising and invitations	Woodside advertised the event to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: • Advertisement in the Pilbara News on 9 October 2024 (see below). • Geotargeted Social media posts were published inviting public to attend on Woodside North West Facebook page(see below). • Social media post from the event host, Dampier Community Association was published on 11 October 2024 inviting the public to attend (see below). • Advertisement was displayed on community noticeboard at Lo's Café, Karratha, and Roebourne Library (see below). • An EP consultation banner with QR code (linked to the 'Consultation activities' page on the Woodside website) displayed at Woodside's stand along with current EP factsheets (see below).
Estimated number of individuals / organisations consulted	Over 1000 community members attended the event. Woodside spoke to many community members, recording 6 conversations.
Summary of Feedback, Objection or Claim	
• General interest in progress on the Scarborough project and the future of gas in the energy transition. • General interest in the Carbon Capture and Storage process. • Interest in the Woodside community grant program • EP approval process discussed and why we want to talk to the community. No concerns raised. • General queries around employment and graduate opportunities. • Interest in divestment of ex-Woodside homes.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims raised about EPs. Woodside's participation at the market's is part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	





This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 998 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.



5.3.12 Dampier Beachside Markets – 2 November 2024

Location	Dampier
Activity	Dampier Beachside Markets – Guy Fawkes
Date	2 November 2024
Description of the consultation	Woodside hosted a stand at the Dampier Beachside Markets a community event bringing together local businesses selling local products, a variety of food vendors and community groups. The stand was staffed by members from Woodside's Corporate Affairs and First Nations teams. Woodside displayed a QR code at the stand, linked to the 'Consultation activities' page of the Woodside website. Woodside made available printed consultation information sheets on Pyrenees Facility Operations EP.
Advertising and invitations	Woodside advertised the event to enable individuals to self-identify, become aware of the community consultation, and to allow individuals to provide feedback on proposed activities, through the following: • An advertisement published in the Pilbara News on 30 October 2024 (see below) • Social media posts on the Woodside North West Facebook page inviting the public to attend (see below) • A social media post from event host, Dampier Community Association, published on 11 October 2024 inviting public to attend • An advertisement displayed on community noticeboards at Lo's Café in Karratha, and the Karratha and Roebourne libraries • An EP consultation display with QR code (linked to the 'Consultation activities' page on the Woodside website) displayed at Woodside's stand along with current EP consultation information sheets (see below).
Estimated number of individuals /	Over 1200 community members (Dampier Community Association) attended the event. Woodside spoke to many community members, recording 10 conversations.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 999 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

organisations consulted	
Summary of Feedback, Objection or Claim	
• General queries around employment opportunities. • General interest in the Scarborough progress and Browse, and the future of gas in the energy transition. • EP approval process discussed and why we want to talk to community. No concerns raised. • General interest in the Carbon Capture and Storage (CCS) process. • Discussions around the area's housing market and related industry opportunities.	
Woodside's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims raised about EPs. Woodside's participation at the markets is part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Evidence of promotion and event

Newspaper advertisement(s) Pilbara News 30 October 2024	Social Media campaign Woodside North West Facebook, 25 Oct 2024
 Provide your feedback at Dampier Beachside Markets Are you interested in Woodside's proposed activities and operations? Let's talk about our Environment Plans at the Dampier Beachside Markets. We'll be at the Woodside marquee from 5:30 pm - 8:30 pm, Saturday 2 November, 2024. If you are an individual, organisation or community group whose functions, interests or activities may be affected by our proposed activities and operations, we want to talk to you. Find out more or provide feedback: Phone: 1800 642 817 Email: community@feedback.woodside.com Woodside Energy	 Woodside North West October 25 at 6:00 AM Did you see us at this month's Dampier Beachside Markets? It was great to chat with community about Woodside's work in the North West, our community grants programs (closing Thursday, 31 October), Environment Plans and to hear your feedback on our projects. If you would like to know more about what we have planned on land and sea, catch us at the next markets, Saturday 2 November, from 5:30 pm - 8:30 pm.... See more

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

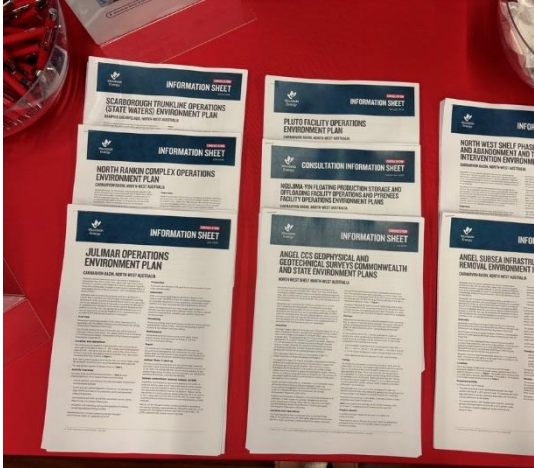
Page 1001 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.3.13 Dampier Community Association – Who’s Who in the Hood – 18 March 2025

Location	Dampier
Activity	Dampier Community Association – Who’s Who in the Hood
Date	18 March 2025
Description of the consultation	Woodside hosted a stand at the Dampier Community Hub available to community members, sporting groups and industry representatives who provide funding opportunities in Dampier. The stand was staffed by members from Woodside’s Corporate Affairs teams. Woodside displayed a QR code at the stand, linked to the ‘Consultation activities’ page of the Woodside website and provided hard copy versions of the March 2025 ‘Let’s Talk’ newsletter. Woodside made available printed consultation information sheets on the Pyrenees Facility Operations EP.
Advertising and invitations	Woodside advertised the event to enable individuals to self-identify, become aware of the community consultation, and to allow individuals to provide feedback on proposed activities, through the following: • Social media posts on the Woodside North West Facebook page inviting the public to attend (see below) • An EP consultation display with QR code (linked to the ‘Consultation activities’ page on the Woodside website) displayed at Woodside’s stand along with current EP consultation information sheets (see below).
Estimated number of individuals / organisations consulted	Over 50 community members (Dampier Community Association) attended the event. Woodside spoke to many community members, recording 2 onversations.
Summary of Feedback, Objection or Claim	
• General queries around community grants and what is available from Woodside.	
Woodside’s Assessment of Merits of Feedback, Objection or Claim and its Response	
There were no objections or claims raised about EPs. Woodside’s participation at ‘Who’s Who in the Hood’ is part of Woodside’s broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Evidence of promotion and event

Social Media campaign Woodside North West Facebook 18 March 2025	Photo of event
	
Photo of event	Photo of Information Sheets
	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

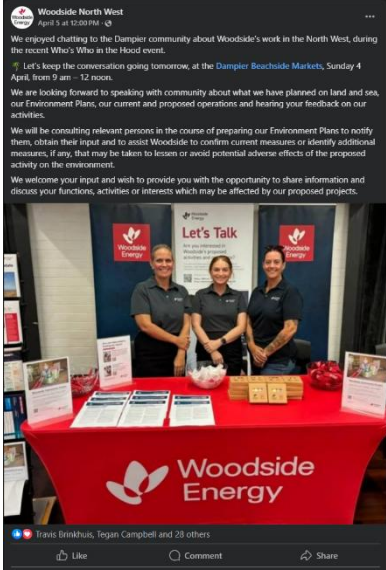
Page 1003 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.3.14 Dampier Beachside Markets – 6 April 2025

Advertising and invitations	Woodside advertised the event to enable individuals to self-identify, become aware of the community consultation, and to allow individuals to provide feedback on proposed activities, through the following: • An advertisement published in the Pilbara News on 30 October 2024 (see below) • Social media posts on the Woodside North West Facebook page inviting the public to attend (see below) • A social media post from event host, Dampier Community Association, published on 11 October 2024 inviting public to attend • An advertisement displayed on community noticeboards at Lo's Café in Karratha, and the Karratha and Roebourne libraries • An EP consultation display with QR code (linked to the 'Consultation activities' page on the Woodside website) displayed at Woodside's stand along with current EP consultation information sheets including the Pyrenees Facility Operations EP.
Estimated number of individuals / organisations consulted	More than 1200 community members (Dampier Community Association) attended the event. Woodside spoke to many community members, recording 30 conversations.
Summary of Feedback, Objection or Claim	
• Queries around employment opportunities, including apprenticeship and trainee opportunities. • Interest in local content opportunities. • General interest in the Scarborough Energy Project progress and Pluto Train 2 and Train 1 modifications projects. • Comments made issue motivated groups views. Woodside expressed everyone has the right to share their views in a respectful and peaceful manner. • Conversations on the North West Shelf Project Extension including support for local community, timelines, investing partners, political views and the future of gas in the energy transition. • Environment Plan consultation and approval process discussed and why we want to talk to community. No concerns raised. • General interest in Woodsides commitment to emission reduction,.. positive feedback on meeting commitments. • Discussions around the area's housing market, residential and Fly in Fly out workforce. • Several discussions with children about what Woodside does and where gas comes from.	
Woodside's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims raised about Environment Plans. Woodside's participation at the markets is part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Evidence of promotion and event

Social Media promotion Woodside North West Facebook page, 5 April 2025	Social Media promotion Woodside North West Facebook story April 2025 Published for 24 hours
	Would you like to know what Woodside has planned on land and sea?  Let's talk about our Environment Plans. If you are an individual, organisation or community group whose functions, activities or interests may be affected by our proposed projects and operations, we want to hear from you. Share your feedback or find out more by visiting our friendly team. Dampier Beachside Markets Sunday, 6 April 2025 Between 9:00 am - 12:00 noon Hampton Oval, Dampier, WA 

5.3.15 Dampier Beachside Markets – 15 June 2025

	Location: Dampier
Activity	Dampier Beachside Markets
Date	Sunday, 15 June 2025
Description of the consultation	Woodside hosted a stand at the Dampier Beachside Markets, a community event bringing together local businesses selling local products, a variety of food vendors and community groups. The stand was staffed by members of Woodside's Corporate Affairs, Global Heritage and First Nations teams. Woodside displayed a QR code at the stand that links to the 'Consultation activities' page of the Woodside website. Woodside displayed and made available printed consultation information sheets on the Pyrenees Facility Operations Environment Plan.
Advertising and invitations	Woodside advertised the event to enable individuals to self-identify, become aware of the community consultation, and to allow individuals to provide feedback on proposed activities, through the following: • An advertisement published in the Pilbara News on 11 June 2025 (see below). • A social media post Dampier Community Association Facebook page advising that Woodside would be in attendance at the event (see below). • A social media story displayed for 24 hours via Woodside North West Facebook account advising that Woodside would be in attendance at the event (see below).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

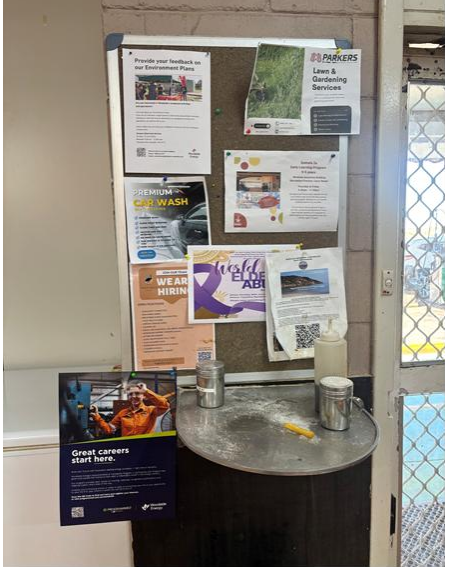
Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1005 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	- An advertisement displayed on community noticeboards at Lo's Karratha, BP Service Station Roebourne and Ieramagadu Cafe Roebourne (see below), - An EP consultation display with QR code (linked to the 'Consultation activities' page on Woodside's website) displayed at Woodside's stand along with current EP consultation information sheets (see below).
Estimated number of individuals / organisations consulted	More than 1200 community members attended the event. Woodside spoke to many community members, recording 20 conversations.
Summary of Feedback, Objection or Claim	
- Queries around employment opportunities, including apprenticeship and trainee opportunities. - Interest in local content opportunities. - General interest in the Scarborough Energy Project progress and Pluto Train 2 and Train 1 modifications projects. - Comments were made about the views of some issue motivated groups. Woodside expressed that everyone has the right to share their views in a respectful and peaceful manner. - Conversations on the North West Shelf Project Extension including support for local community, timelines, investing partners, political views and the future of gas in the energy transition. Many pro approval. - Discussions and awareness building on the Murujuga Rock Art Monitoring Program. No concerns raised. - Interest in Woodside's supply of DOMGAS to WA. - Environment Plan community consultation and approval process discussed and why we want to talk to community. No concerns raised. - Interest in the North West Shelf Project Visitors' Centre opening hours. - Several discussions with children about what Woodside does and where gas comes from.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims. The community information sessions were part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Advertisement Pilbara News – 11 June 2025	Social media Dampier Beachside Markets Facebook – 14 June 2025
 'Artisanal' miners key target Provide your feedback on our Environment Plans High price reduces production	 Woodside Energy RAISING AWARENESS SHARING ENVIRONMENT PLANS AND SEEKING COMMUNITY FEEDBACK @Hampton Oval
Advertisement Ieramagadu Store, Roebourne community notice board – 11 June 2025	Advertisement BP Service Station Roebourne, community noticeboard – 11 June 2025
	

5.4 Gascoyne region community activities

5.4.1 Community information session – Exmouth – 23 October 2023

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1007 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Activity	Exmouth Consultation Roadshow
Location	Exmouth
Date	23 October 2023
Description of the consultation	Woodside hosted a community consultation session in Exmouth to enable community members to understand Woodside's proposed activities and how it may affect them, ask questions, and provide their feedback. Woodside Project, Corporate Affairs, First Nations, Environment, and Biodiversity and Science representatives were available to answer questions. A number of Environment Plan Consultation Information Sheets were available to attendees including the Pyrenees Facility Operations EP Consultation Information Sheet.
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: • Advertisement in the Pilbara News on 4 October 2023 (see below). • Geotargeted social media campaign advertising in Exmouth and surrounding areas (+80 kms) from 2 to 9 October 2023 (see below). • Directly inviting local Traditional Custodian groups (see below). • An EP consultation banner with QR code (linked to the Consultation Activities page on the Woodside website), and Scarborough Project banner were displayed at Woodside's stand along with current EP factsheets.
Estimated number of individuals / organisations consulted	Exmouth – Four individuals attended the information session. One from Gascoyne Green Energy, two Shire Councillors and a representative from Exmouth's Chamber of Commerce and Industry.
Summary of Feedback, Objection or Claim	
Community members were able to engage with Woodside representatives to understand the proposed activity and how it may affect them, ask questions, and provide their feedback. • All stakeholders expressed they had seen the geotargeted ads on social media. • General interest in Woodside activities and interest in the social benefits to the local Exmouth community. This included encouragement for Woodside to promote and share the positive outcomes of Woodside's presence and an offer from the Chamber to share information amongst its members. • General interest to understand what is involved in a marine seismic survey (MSS). Woodside presented its video on MSS. • General interest to understand the interaction of whales and MSS, and what mitigation measures are put in place for our activities. • Interest to understand how Woodside undertakes community consultation	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims. The community information sessions were part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Pilbara News Advertisement – 11 October 2023

Pilbara News
Wednesday, October 11, 2023

pilbaranews.com.au

NEWS 5

Animal flight policy criticised

CAIN ANDREWS

A prominent pet adoption agency has slammed Qantas' animal flight policy claiming it will lead to the unnecessary deaths of hundreds of animals.

Over the past year, animal adoption agency Saving Animals From Euthanasia's regional branches in Broome, Newman, Hedland and Karratha collectively rescued 1826 animals with 62.6 per cent or 956 of them requiring air transport to get to their new homes.

But with Qantas now enforcing a "no-fly" policy for animals when temperatures are forecast to reach more than 35C, SAFE founder Sue Hedley said rescue animals that required air transport might have to be destroyed.

"It is crucial to recognise that this policy alteration could have dire consequences for these animals. If they are unable to reach their destination and find new homes, they may tragically face euthanasia as an alternative," she said.

Ms Hedley said SAFE had engaged with Qantas to try to find alternative solutions such as earlier or only allowing animals on early morning flights on days over 35C, but was knocked back by the company.

"In over 35 years of operation, SAFE has never had a death during transportation from regional areas to Perth, no matter the temperature," she said.

"Unfortunately, we have been advised that the policy will remain



Sue Hedley & Salem, PIC: Helen Osler

and that no exceptions will be made.

"We firmly believe that the risks associated with this policy extend far beyond those related to flying on a day when temperatures may reach 35C later in the day."

A Karratha woman, who only wishes to be identified as Simone, was told her two dogs would not be allowed to catch a Qantas flight on October 5 because of the policy.

According to Simone, at the last minute she was told her dogs could not catch the flight despite being told the night before her dog would be able to fly.

"It's ridiculous we're here with our dogs everything's packed, and we're going away as well."

"With the way things are in Karratha with the shortage of space available there's no one to look after our pets," she said.

"It's not just inconvenient, it's unethical as they're not even adhering to their own policy."



Simone's dogs faced being bumped off a Qantas flight because of the airline's heat policy.

"I get it's about animal safety but what is ridiculous is that the policy clearly states 35C and above and it (was) only 23C."

Qantas eventually made an exception for Simone and her dogs on the day, however, she claims she was told by those at the airport to not tell Ms Hedley about the incident.

Last year, temperatures in Karratha exceeded 35C on 106 days, with a consecutive period of 42 days over 35C between February 12 and March 26.

Responding to questions about the policy, a Qantas spokesperson said the policy was led by the International Pet and Animal Association and the International

Air Transport Association. "Qantas takes the safety and welfare of pets and animals who travel with us extremely seriously," the spokesperson said.

"This is why we don't transport pets when temperatures exceed 35C or fall below 5C, due to the stress and anxiety this could cause."



FIND OUT MORE ABOUT OUR PROPOSED ACTIVITIES

ARE YOU INTERESTED IN WHAT WOODSIDE HAS PLANNED ON LAND AND SEA?

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Speak to our friendly team members at one of our three sessions in October.

Monday, 16 October 2023
Between 10.00am - 2.00pm
Gwoonwardu Mia
146 Robinson Street
Garnarvon

Tuesday, 17 October 2023
Between 9.00am - 1.00pm
Denham Town Hall
Hughes Street
Denham

Monday, 23 October 2023
Between 10.00am - 5.00pm
Exmouth Chamber of Commerce and Industry
22 Maidstone Crescent
Exmouth



You can access our consultation information, provide feedback and subscribe for updates by scanning the QR code.



Northwest Multicultural Show 2023

SATURDAY
14 OCTOBER 2023
1:00PM-5:00PM
RED EARTH ARTS PRECINCT

Social media tile and story – 2 – 9 October 2023

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1009 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Exmouth.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Monday, 23 October 2023
 Between 10.00am - 5.00pm
 Exmouth Chamber of Commerce and Industry
 22 Maidstone Crescent
 Exmouth



Are you interested in what Woodside has planned on land and sea?

Stop by and say hello to our friendly team in Exmouth.

We'd like to talk to relevant persons about our Environment Plans. We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed activities.

Monday, 23 October 2023
 Between 10.00am - 5.00pm
 Exmouth Chamber of Commerce and Industry
 22 Maidstone Crescent
 Exmouth



5.4.2 Exmouth Community Markets – 19 May 2024

Location	Exmouth
Activity	Community markets – Woodside stand
Date	Sunday, 19 May 2024 (8am to 12pm)
Description of the consultation	Woodside hosted a stand at the Exmouth Community Markets, held at Federation Park. The stand was staffed by Woodside Environment and Corporate Affairs representatives. Woodside displayed a QR code on the stand, linked to the consultation activities page of the Woodside website. Woodside's 'Let's Talk' – a monthly information sheet on the company's Australian activities – was available. In addition, information on the Scarborough Energy Project, Browse to NWS Project, Browse Carbon Capture and Storage (CCS) concept, Woodside's Climate Transition Action Plan, leaflets providing QR codes to Woodside's Annual Report and Sustainability, as well as our Reconciliation Action Plan were available. Environment Plan Consultation Information Sheets available to attendees included the Pyrenees Facility Operations EP.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1010 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: • Geotargeted social media campaign advertising in Exmouth and surrounding areas (+80 kms) from 4 May to 18 May. • Directly inviting local Community Liaison Group • An EP consultation banner with QR code (linked to the Consultation Activities page on the Woodside website) was displayed at Woodside's stand.
Estimated number of individuals / organisations consulted	More than 300 people attended the markets. Woodside had conversations with approximately 30 people. These people identified as being Exmouth community members, visitors to Exmouth (residents of the East Coast of Australia, residents of Perth, residents of Karratha), and a few backpackers from various overseas locations.
Summary of Feedback, Objection or Claim	
• Community members were able to engage with Woodside representatives to understand the proposed activity and how it may affect them, ask questions, and provide their feedback. • General interest in Woodside activities. • No specific queries on the EPs. • Stakeholders identifying themselves as Woodside shareholders interested in project updates, particularly on Scarborough, Browse to NWS Project, as well as the company's climate strategy and climate transition plans. • Queries around employment and local content opportunities. • General queries on the progress of the Scarborough Energy Project and Browse to North West Project. • Queries on Western Australia's domestic gas reservation policy and the existing domestic gas commitments for Woodside's activities. • Concern over the costs of flights between Exmouth and the East Coast. • General queries on the location of Woodside assets in relation to Exmouth and Woodside's footprint in Exmouth. • Interest in social investment programs and opportunities. • Interest in how Woodside undertakes community consultation. • One stakeholder expressed their opposition to oil and gas and voiced a desire for companies like Woodside to invest in geo-thermal energy instead.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
While feedback was received, there were no specific objections or claims to a particular Woodside project or activity. Objections to the resources industry were expressed by two stakeholders. The community information sessions were part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Social media tile

**Woodside Energy**
Sponsored · 



Are you interested in what Woodside has planned at land and sea?

Stop by to chat with our friendly team in Exmouth.

We'd like to consult relevant persons in the course of preparing Environment Plans to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that may be taken to lessen or avoid potential adverse effects of the proposed activity on the environment.

We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed projects.

Exmouth Community Markets
Sunday 19 May 2024
Between 8 am - 12 noon
Federation Park

**Woodside Energy**

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1012 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Email to Exmouth CLG

Dear Exmouth Community Liaison Group

I will be at the Exmouth Community Markets this Sunday with a couple of colleagues. We'd love for you to come and have a chat.

More information can be found below.

Kind regards



FIND OUT MORE ABOUT OUR PROPOSED ACTIVITIES

ARE YOU INTERESTED IN WHAT WOODSIDE HAS PLANNED ON LAND AND SEA?

Stop by and say hello to our friendly team at the Exmouth Community Markets to find out more and share your feedback about Woodside's Environment Plans and our current and proposed projects, including Scarborough and Browse.

We are consulting relevant persons in the course of preparing our Environment Plans to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that may be taken to lessen or avoid potential adverse effects of the proposed activity on the environment.

We welcome your input and wish to provide you with the opportunity to share information and discuss your functions, activities or interests which may be affected by our proposed projects.

Exmouth Community Markets
Sunday, 19 May 2024
Between 8 am - 12.00 noon
Federation Park
Maidstone Crescent
Exmouth

Scan the QR code to access consultation information, provide feedback and subscribe to our Environment Plan updates.



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1013 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Woodside stand



5.4.3 Exmouth Community Information Session – 14 November 2024

Location	Exmouth
Activity	Community Drop-In: Woodside Marquee
Date	14 November 2024
Description of the consultation	Woodside hosted a stand at Ross Street Mall in Exmouth. The stand was staffed by Woodside Environment and Corporate Affairs representatives. Woodside displayed a QR code on the stand, linked to the 'Consultation activities' page of the Woodside website. Information on the Scarborough Energy Project, Browse to NWS Project, Woodside's Climate Transition Action Plan, leaflets providing QR codes to Woodside's Annual Report and Sustainability, 'Let's Talk' (a publication on the company's Australian activities) were available. EP Consultation Information Sheets available to attendees included Pyrenees Facility Operations.
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, become aware of the community consultation, and enable individuals to provide feedback on proposed activities, through the following:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

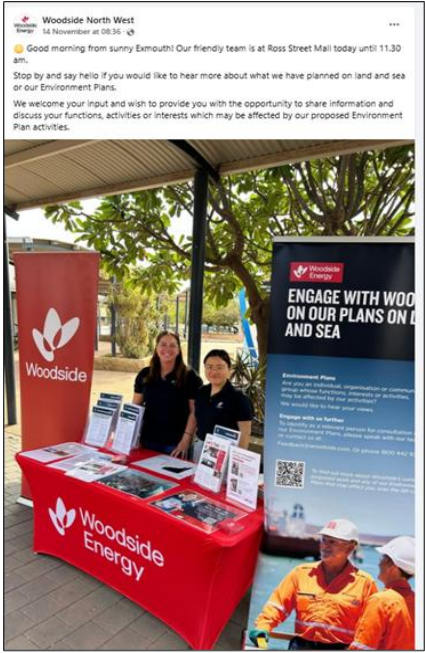
Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1014 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

	• Geotargeted social media campaign advertising in Exmouth and surrounding areas (+80 kms) from 9 – 14 November 2024. • Post on Woodside social media channel. • Promotion at the Exmouth Community Liaison Group meeting. • An EP consultation banner with QR code (linked to the 'Consultation activities' page on the Woodside website) was displayed at Woodside's stand along with the EP factsheets and Project information sheets.
Estimated number of individuals / organisations consulted	Woodside had conversations with approximately 12 groups. These people identified as being Exmouth community members or visitors to Exmouth (residents of the East Coast of Australia or Western Australia).
Summary of Feedback, Objection or Claim	
• Community members were able to engage with Woodside representatives to understand the proposed activity and how it may affect them, ask questions, and provide their feedback. • There was general interest in Woodside activities. Key issues discussed: - General queries on Woodside's footprint in Exmouth. - Queries about employment and local content opportunities. - Interest in understanding current social investment programs and opportunities. - One stakeholder expressed support for more industry activity in Exmouth. - Stakeholders identifying themselves as Woodside shareholders interested in project updates, particularly on Scarborough. - Query on domestic gas commitments for Woodside's activities.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no specific objections or claims to a particular Woodside project or activity. The community information sessions were part of Woodside's broader consultation approach to enable self-identification, and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation.	

Paid social media – Instagram and Facebook	Social media Woodside North West Facebook – 14 November 2024
Would you like to know what Woodside has planned on land and sea?  Let's talk about our Environment Plans. If you are an individual, organisation or community group whose functions, interests or activities may be affected by our proposed projects and operations, we want to hear from you. Share your feedback or find out more by visiting our friendly team. Ross Street Mall Thursday, 14 November 2024 Between 8:00 am - 11:30 am Exmouth WA 6707 	

Social Media Campaign Results – Community Information Sessions

Platform	Geotargeted Reach	Post Dates	Impact
Facebook	Regional: Users 18+ located within 40kms of Exmouth	9 – 14 November 2024	Reach: 20,826 Frequency: 1.15 Impressions: 23,895 All clicks: 76 Link clicks: 5 CTR%: 0.02%
Instagram	Regional: Users 18+ located within 40kms of Exmouth	9 – 14 November 2024	Reach: 19,650 Frequency: 1.10 Impressions: 21,636 All clicks: 9 Link clicks: 1 CTR%: 0.00%
Platform	Number of reactions	Number of comments	Comments Relevant to EP
Meta - Facebook	2 👍 0 shares	0 comments	0

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1016 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.4.4 Ningaloo Sky Festival – 28 June 2025

	Location: Exmouth
Activity	Ningaloo Sky Festival
Date	28 June 2025
Description of the consultation	Woodside hosted a stall at the Ningaloo Sky Festival in Exmouth to engage community members on our activities. The stand was staffed by Woodside Environment and Corporate Affairs representatives. Information on Woodside's research in the Ningaloo region, Woodside's Climate progress, leaflets providing QR codes to Woodside's Annual Report and Sustainability information, 'Let's Talk' (a publication on the company's Australian activities) were available. Woodside made available printed consultation information sheets including the Pyrenees Facility Operations EP information sheet. Several copies of the Pyrenees EP information sheet were taken by interested community members.
Advertising and invitations	Woodside promoted the session with the Exmouth Community Liaison Group to enable individuals to self-identify, promote awareness of community consultation.
Estimated number of individuals / organisations consulted	More than 200 community members attended the event. Woodside spoke to many community members, recording approximately 25 conversations.
Summary of Feedback, Objection or Claim	
- General queries about Woodside's footprint in Exmouth and the two facilities visible from the coast (Pyrenees and Ngujima-Yin FPSOs). - General conversations about Woodside's activities in Western Australia, including the North West Shelf and progress on the Scarborough Project. - Query on the Woodside-CSIRO Ningaloo Outlook program and opportunities for further research in the Exmouth area. - Questions relating to the current status of the Browse project and considerations for Scott Reef. - Query about domestic gas supply and the capacity of the Dampier Bunbury Pipeline. - General interest in Woodside's environmental management measures and mitigations. - Questions around employment opportunities, in particular apprenticeship opportunities. - Query about the development of a port in Exmouth and whether Woodside had involvement in the proposal. - Interest in general Woodside updates from stakeholders identifying themselves as shareholders.	
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims. The community information sessions were part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Woodside stand



Information sheets



Information sheets and brochures



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1018 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.4.5 Exmouth Community Markets – 5 October 2025

Location: Exmouth	
Activity	Exmouth Community Markets
Date	5 October 2025
Description of consultation	Woodside hosted a stall at the Exmouth Community Markets to engage community members on our activities. The stand was staffed by Woodside Environment and Corporate Affairs representatives. Information on Woodside's activities in the Exmouth region and details of Woodside's community grants program were available. Woodside also made available printed consultation information sheets on the Pyrenees Facility Operations EP.
Advertising and invitations	Woodside promoted the market stall on its North West Facebook page.
Estimated number of individuals / organisations consulted	Over 200 community members attended the event. Woodside spoke to many community members, recording approximately 20 conversations.
Summary of Feedback, Objection or Claim	
- Interest in Woodside's social contribution activities in Exmouth and potential support for health services infrastructure. - Conversations about Woodside's approach to cultural heritage management - Query about Woodside's tax contribution. - Conversation about Woodside's approach to the energy transition and investment in new energy products and lower carbon services. - Interest in industry's political influence. - General queries about Woodside's footprint in Exmouth and the two facilities visible from the coast (Pyrenees and Ngujima-Yin FPSOs). - General conversations about Woodside's activities in Western Australia, including the North West Shelf. - Questions relating to the current status of the Browse project and considerations for Scott Reef. - General interest in Woodside's health, safety and environmental management measures and mitigations, particularly in relation to seismic activities and potential impacts to fauna.	
Woodside's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims. The community information sessions were part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

Woodside stand	Facebook promotion
	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1020 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Information sheets



Information sheets



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1021 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.5 Community newsletters

5.5.1 Let's Talk – Our Plans, Your Say

5.5.1.1 Let's Talk March 2024

Hard copy distribution – March 2024

Date	Location	Event (if applicable)
28 February 2024	Karratha	KDCCI Business Breakfast
6 March 2024	Exmouth	Exmouth Chamber of Commerce and Industry office Exmouth Community Liaison Group
7 March 2024	Exmouth	Gascoyne Development Commission office Exmouth Shire office
8 March 2024	Karratha	KDCCI International Women's Day
13 – 15 March 2024	Perth	AOG Energy Conference
22-24 March 2024	Karratha, Dampier, Roebourne	Regional Woodside Environment Plan consultation roadshow
3 April 2024	Karratha	Employees at the Woodside Karratha Gas Plant
10 April 2024	Perth	Meeting with WAFIC
17 April 2024	Karratha	KDCCI Business After Hours
24 April 2024	Perth	Employees at the Woodside MY Building Woodside Annual General Meeting

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1022 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Let's Talk March 2024 edition

LET'S TALK

MARCH 2024

OUR PLANS, YOUR SAY



Woodside
Energy



WELCOME

Welcome to the first edition of Let's Talk – a platform to stay connected on Woodside Energy's Australian happenings and the stories behind our activities and operations. Dive in and explore to learn more about what Woodside has planned on land and sea; when, where and how we're engaging on our activities; and how you can provide feedback to us. If you or your organisation have functions, interests, or activities that may be affected by our planned activities, we want to hear from you.

THE RUNDOWN

In December 2023, The Scarborough Energy Project received secondary Commonwealth environmental approvals for key offshore work scopes. The project is now well underway (over 50% complete) with the commencement of relevant offshore construction activities.

Woodside also received environmental approvals in November and December 2023 enabling in-field works for decommissioning activities at the Griffin (65 km northwest of Onslow) and Stybarrow fields (51 km to the northwest of the North West Cape).

As part of the decommissioning of the Enfield field, Woodside received environmental approvals in July 2023 for the removal of the Nganhurra riser turret mooring (RTM) from the permit area off the coast of Exmouth.

The Nganhurra RTM is a metal structure, about 83 metres long, on which Woodside previously moored an oil producing facility.

The RTM allowed the facility to rotate with weather while moored and also brought subsea production lines from the Enfield oil field to a Floating Production Storage and Offloading facility. Enfield ceased production in November 2018 and the RTM was removed as part of decommissioning activities at the field, which also included the permanent plugging and abandonment of 18 former production wells.

The decommissioning concept for the Nganhurra RTM was matured over more than two years of careful planning and detailed engineering, undertaken in conjunction with a range of specialist contractors.





“

In late 2023, Woodside safely and successfully completed activities in the Environment Plan, including lifting the RTM in one piece out of the water and placing it on a barge for transportation to the Australian Marine Complex (AMC) at Henderson.

”

Join the conversation at [woodside.com/sustainability/consultation-activities](https://www.woodside.com/sustainability/consultation-activities)



To stay updated, subscribe for future editions click [here](https://www.woodside.com/what-we-do/consultation-activities) or visit www.woodside.com/what-we-do/consultation-activities

The RTM is now in its final stages of deconstruction at the AMC, expected to be completed by April 2024. More than 95% of the Nganhurra RTM will be recycled or re-used, supporting local employment and contracting opportunities.

[Click here to view the safe removal of Nganhurra Riser Turret Mooring](https://www.woodside.com/what-we-do/consultation-activities)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1023 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

LET'S
TALK

TALKING POINT

Woodside safely completes marine survey

A marine seismic survey conducted by Woodside Energy in December 2023 applied controls to avoid interaction with whales as part of the environment planning process.

Once the Environment Plan for the activity was accepted by the Regulator, Woodside conducted the survey from 2 December to 31 December 2023.

The survey was undertaken with a range of standard and project-specific controls designed to reduce interactions with marine fauna including a dedicated spotter vessel with trained Marine Fauna Observers operating during daylight hours and the use of a Passive Acoustic Monitoring system to detect the presence of vocalising whales.

A shut down zone was in place for whales detected within 2 km of the acoustic source and for sea turtles spotted within 100 m of the acoustic source.

There were also specific controls in place relating to whale species of potential cultural significance, such as pygmy blue whales and humpback whales.

This included an extended 'limits of visibility' shutdown zone if these whale species or large unidentified whales were detected by observers, within their limits of vision.

Weekly project update reports were published on the Woodside website during the survey to provide information on cetacean or marine turtle observations. These reports confirmed that marine fauna continued to move through the area during the survey. They also confirmed that no pygmy blue whale or sea turtles were sighted during the survey.



COMMUNITY SPOTLIGHT

The Scarborough Energy Project

The Scarborough Energy Project will provide a boost to the WA economy and communities, growing jobs and bringing work through the supply chain, with a focus on the Pilbara region.

A second processing train, Pluto Train 2, is being constructed within the existing Pluto LNG facility located near Karratha in the Pilbara Region of Western Australia and is currently set to process about five million tonnes per annum of Scarborough gas. The project is providing various opportunities for local businesses in Karratha. To date, with collaboration from Woodside's construction partner Bechtel, the Scarborough Energy Project has injected more than \$90 million locally and contracted over 65 Karratha businesses.

Local business spotlight: ATOM

We're spotlighting local, family-owned business: ATOM. The company name stands for Aqua Terra Oil & Mineral. ATOM has recently been contracted to supply industrial consumables, safety supplies and personal protective equipment products for the Pluto Train 2 construction.

ATOM believes locals serve locals best which is why its 22 employees supporting the project are all local to Karratha. Nearly half of the team are female and there is one Indigenous employee.

The contract has supported ATOM to expand its workforce increasing local employment opportunities.

Terry Klowss, Bechtel's Site Manager for Pluto Train 2 said, "ATOM's 100% local workforce helps us ensure our partnerships are benefiting local people – this is something that is very important to us at Bechtel."



“Long-term, it's estimated Pluto Train 2 will sustain around 600 roles, once the project is operational, across Western Australia, including 70 residential positions in Karratha.”

Like Woodside, ATOM is a nationwide company, with roots in Western Australia. ATOM opened its Karratha branch in 1980. In the same decade, Woodside commissioned the North West Shelf Project.

ATOM also shares Woodside's commitment to invest where we operate, building meaningful relationships and supporting our local community.

Phil Donders, National Team Leader ATOM said, "At ATOM, we believe in investing in the success and sustainability of the communities we operate within. This is why ATOM welcomed the opportunity to support the Pluto Train 2 Project through the supply of industrial consumables and PPE."

With access to more than one million products, ATOM is one of Australia's fastest growing industrial and safety supply business.

Join the conversation at [woodside.com/sustainability/consultation-activities](https://www.woodside.com/sustainability/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1024 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1025 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

COME CHAT WITH US

Woodside consults on our activities. Join us at local North West community events and at our offices so you can talk to us about our operations, decommissioning activities or proposed projects.

If you're interested in what Woodside has planned on land and sea, come and chat to our friendly team. You can find out more and share your feedback about Woodside's work in the North West, our Environment Plans and our current and proposed projects.

Upcoming engagement opportunities

ROEBOURNE
22 March 2024 | 1:00pm – 3:00pm
Woodside Office
39 Roe Street, Roebourne, WA, 6718

KARRATHA
23 March 2024 | 9:00am – 2:00pm
Karratha City Shopping Centre
16 Sharpe Avenue, Karratha, WA, 6714

DAMPIER
24 March 2024 | 9:00am – 12:00pm
Dampier Beachside Markets
Hampton Oval, Dampier, WA, 6713

DAMPIER
3 April 2024 | 10:00am – 2:00pm
North West Shelf Project Visitors Centre
Burrup Road, Dampier, WA, 6713

“If you're interested in what Woodside has planned on land and sea, come and chat to our friendly team.”



HAVE YOUR SAY

Woodside consults relevant persons in the course of preparing our Environment Plans. This is to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that may be taken to lessen or avoid potential adverse impacts of the proposed activity on the environment.

We welcome your input so please contact us if you'd like to discuss your functions, interests or activities which may be affected by our proposed activities.

Environment Plan	Activity Type	Location	Consultation Dates
Pluto Facility Operations	Operations	~190km north-west of Dampier	February – March 2024
North Rankin Complex Operations	Operations	~135 km offshore from Dampier	April – May 2024
Scarborough Trunkline Operations (State)	Operations	~30km north of Dampier	April – May 2024

You can access our consultation information, provide feedback and subscribe for updates by visiting www.woodside.com/what-we-do/consultation-activities or click [here](#).

PROGRESS SNAPSHOT

You can view Environment Plans for approved projects and activities by visiting: info.nopsema.gov.au/home/approved_projects_and_activities or click [here](#).

Environment Plan	Activity type	Date Accepted	Status
Stybarrow Decommissioning and Field Management	Decommissioning	8 January 2024	Work intended to commence in 2024
Stybarrow Plug and Abandonment	Decommissioning	21 December 2023	In progress
WA-34-L Pyxis Drilling and Subsea Installation (Revision)	Project	21 December 2023	Work intended to commence in 2024
Griffin State Pre-Decommissioning	Decommissioning	20 December 2023	Completed
Scarborough Seabed Intervention and Trunkline Installation	Project	13 December 2023	In progress
Scarborough WA-61-L and WA-62-L Subsea Infrastructure Installation	Project	8 December 2023	In progress
Scarborough Drilling and Completions	Project	1 December 2023	In progress
Scarborough 4D B1 Marine Seismic Survey	Survey	1 December 2023	Completed
Griffin Gas Export Pipeline Decommissioning	Decommissioning	30 November 2023	In progress
TPA03 Well Intervention	Project	28 November 2023	In scheduling
Griffin Decommissioning and Field Management	Decommissioning	21 November 2023	In progress
Nganhurra Operations Cessation	Decommissioning	27 July 2023	Completed

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1026 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

LET'S TALK

What's an Environment Plan?

A Titleholder must have an accepted Environment Plan (EP) in order to carry out certain petroleum activities. An EP sets out information about the proposed activity, how the activity may potentially impact the environment, measures to mitigate potential risks and impacts to as low as reasonably practical (ALARP) and acceptable levels, a record of consultation undertaken by the Titleholder, preparedness for emergencies and information on how environmental performance will be monitored and reported.

When an EP is being developed, a Titleholder:

- Engages in consultation with relevant persons and organisations.
- Provides information on its activities.
- Engages in dialogue with persons being consulted (where appropriate).
- Responds to claims or objections about the activity.

Consultation is an important part of environmental management.

Consultation on Environment Plans

Consultation provides an opportunity for persons who wish to provide feedback or raise concerns about:

- The potential adverse impacts of the activity on their functions, interests or activities, to seek information about the activity.
- How the Titleholder intends to manage the activity so that the risks and impacts are managed to ALARP and acceptable levels.

Information provided by the relevant person may assist the Titleholder to better put in place measures to manage the risks and impacts of an activity.

Commonwealth Waters

The National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) is Australia's independent regulator for health and safety, structural and well integrity, and environment management for offshore petroleum and greenhouse gas storage activities in Commonwealth waters.



EPs submitted to NOPSEMA for assessment are made available on the NOPSEMA website.

Woodside consults in the course of preparing Commonwealth EPs in accordance with section 25 of the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023*. Consultation methodologies are designed to:

- Identify relevant persons.
- Provide them with sufficient information and a reasonable period of time to allow them to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities.
- Assist Titleholders to consider and adopt appropriate measures in response to claims or objections raised during consultation.

Woodside identifies relevant persons for consultation in accordance with section 25 of the Environment Regulations. Alternatively persons who wish to consult can self-identify, in accordance with regulation 25 of the Environment Regulations.

Environment That May Be Affected (EMBA)

The environment that may be affected (EMBA) is the largest area where a petroleum activity could potentially have an environmental consequence (direct or indirect impact). The broadest extent of the EMBA takes into consideration planned activities and unplanned events. Woodside's assessment of relevant persons is based on the EMBA assessed for the activity.

State Waters

The Department of Energy, Mines Industry Regulation and Safety (DEMIRS) is the regulator for activities in State waters in Western Australia. Woodside follows a similar process to identify relevant persons to consult for State EPs. However consultation for State EPs is based on activities in the operational area, not unplanned events in the EMBA. For State EPs, only EP summaries are made public on the DEMIRS website once the EP has been approved.

Are you a Relevant Person?

Recently, Woodside launched an information campaign online and on social media focusing on the Kimberley, Pilbara, Gascoyne and Murchison areas to build a greater understanding of how members of those communities can get involved in consultation and the environmental planning process.

A series of short videos were shared on Woodside's website and on social media with targeted information for different community members including commercial fishers, marine users and traditional custodians.

In the videos, Woodside tells community members about our EPs and asks viewers who might be relevant to our activities to self-identify and participate in consultation.

The campaign is still running and provides suggestions as to ways to get into contact with Woodside and learn more about our EPs.

[Click here to learn more](#)

Join the conversation at [woodside.com/sustainability/consultation-activities](https://www.woodside.com/sustainability/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1027 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.5.1.2 Let's Talk April 2024

Hard copy distribution – April 2024 edition

Date	Location	Event (if applicable)
April 2024	Perth	Woodside AGM
April/May/June	Karratha	Woodside Visitor Centre
May 2024	Perth	WAFIC Award Night
May 2024	Karratha	KDCCI Business Breakfast Briefing
May 2024	Karratha	Community markets
May 2024	Karratha	Employees at the Woodside Karratha Gas Plant
May 2024	Onslow	Community information night
May 2024	Exmouth	Community markets
May/June 2024	Perth	Employees at the Woodside MY Building Woodside Annual General Meeting

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1028 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Let's Talk April 2024 edition

LET'S TALK

EDITION 2 | APRIL 2024

OUR PLANS, YOUR SAY





THE RUNDOWN

On 1 March 2024, Woodside received Commonwealth environmental acceptance for the Griffin Field Decommissioning (End State) Environment Plan, supporting the staged decommissioning program for the Griffin oil and gas field, located off the Western Australian (WA) coast 65 km north-west of Onslow and 94 km north-east of Exmouth.

During late 2023, Woodside received acceptance for other Griffin decommissioning activities, with several activities already safely and successfully completed.

WHAT IS DECOMMISSIONING?

Decommissioning involves managing infrastructure that is no longer required in a timely, safe, and culturally and environmentally responsible manner.

GRIFFIN FIELD – FAST FACTS

- Field discovered 1989
- Production period 1994 – 2009
- Gas produced for the WA domestic gas market - 62 billion cubic feet
- Barrels of oil produced - 167 million

Griffin gas export pipeline removed safely, offshore from Onslow

Woodside recently completed staged decommissioning activities under the Griffin Gas Export Pipeline (GEP) Decommissioning Environment Plan, which was accepted on 30 November 2023. Woodside removed -25 km of the pipeline offshore within Commonwealth waters at depths ranging from 52 m to 127 m, approximately 41 km north-west of Onslow.

During production, the 62 km long and 30 cm in diameter Griffin GEP transported gas from the field to the former onshore Griffin gas export facility south of Onslow for use by WA businesses and households.

The decommissioning of the pipeline's WA State waters section and related onshore infrastructure requires separate state approvals. Woodside will engage local stakeholders to understand their views on potential decommissioning options for this pipeline portion.

Woodside is now undertaking a post-removal assessment of the Commonwealth section of the Griffin pipeline to inform future decommissioning activities in the region. Woodside will continue to assess decommissioning options case-by-case, guided by science, consultation, and legislative requirements.

NINGALOO OUTLOOK SYMPOSIUM

To increase the ecological understanding of the Ningaloo Coast World Heritage Area's deep and shallow reefs and shark and turtle populations, Woodside and CSIRO have partnered on the Ningaloo Outlook Marine Research Partnership.

For Ningaloo Outlook (Phase 1 and 2) over A\$12million has been invested in scientific research to further develop new knowledge about the Ningaloo Coast World Heritage Area. The initial Phase 1 was in partnership with BHP, now part of the merged Woodside Energy.

The 300 km long Ningaloo Reef is the largest fringing coral reef on the west coast of any continent. With shallow lagoons and deeper waters offshore, the reef is home to a variety of marine life and diverse habitats.

The sixth **Ningaloo Outlook Symposium** recently enabled marine park managers, the scientific community and interested stakeholders to discuss the partnership's 2023 research findings.



[Click here to view footage shown at the 2024 Ningaloo Outlook symposium.](#)

To stay updated, subscribe for future editions at [woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1029 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

COMMUNITY SPOTLIGHT

Support for Murujuga

Woodside is proud to be a signatory of Murujuga Aboriginal Corporation's (MAC) Statement of Intent as part of our unwavering support for World Heritage Listing over the Murujuga Cultural Landscape, and our ongoing support for the protection and management of Murujuga's outstanding heritage values. We are committed to and support the protection of Aboriginal cultural heritage and continue to work closely with Traditional Custodians in the areas we operate.

Woodside was one of 11 signatories to the MAC Statement of Intent at a ceremony held at Hearson Cove on Murujuga Country. Other parties to the Statement of Intent included MAC (as the representative body for five Traditional Custodian groups, being Ngarluma, Yaburara, Yindjibarndi, Mardudhunera and Wong-Goo-tt-oo peoples), the Government (Premier, Environment Minister and Aboriginal Affairs Minister), Commonwealth Government (Environment Minister), Rio Tinto, Pardaman, Yara Pilbara, Horizon Power and the City of Karratha.

The Statement of Intent sets out the guiding principles for MAC, government and industry parties to work together to negotiate a cooperative Strategic Head Agreement in relation to the management, protection, and conservation of the Murujuga Cultural Landscape in support of the World Heritage nomination of this landscape.

Woodside takes its responsibility to protect and manage cultural heritage seriously, including through taking reasonable and practical measures across our operations and growth projects to minimise our emissions.



TALKING POINT

Supporting Science at Scott Reef

Out on the edge of Australia's continental shelf sits the north and south reefs and sandy islet of Scott Reef.

Located about 425 km north-west of Broome, to reach Scott Reef a boat would need to travel from the closest point on the WA coast for 270 km across the Indian Ocean.

Scott Reef and other reefs in the Pilbara and Kimberley were considered "poorly understood" by the Australian Institute of Marine Science (AIMS) three decades ago. However, over the last 30 years, more than 50 expeditions by numerous marine scientists have led to extensive research and understanding of Scott Reef.

In 1993, Woodside supported AIMS' extensive survey of coral and fish communities. This led to the establishment of a long-term monitoring program in 1994, which continues today. The Scott Reef coral reef monitoring program is globally one of the few continuous programs providing insight into the health and condition of resident corals and fish.

Woodside partnered with the WA Museum in 1998, contributing to research on oceanography and the biology and ecology of the resident species. The partnership has enabled long-term research to understand the reef's health and how it changes through time. WA Museum scientists visited Scott Reef in 1984 to carry out extensive surveys to sample fauna. Then, in 2006

returned with Woodside's support and catalogued 1,897 marine life species, including 262 new discoveries.

The WA Museum partnership included the Woodside Collection Project, focused on the marine life of the Dampier Archipelago and Kimberley. Over 55,000 specimens were collected and 700 new species were identified as part of the large Australian biodiversity project.

The wide-ranging Scott Reef research projects have revealed important insights into a complex ecosystem and have delivered a wealth of knowledge to support Woodside's long-term environmental planning and management.

Woodside is consulting on the Browse State Wellhead Decommissioning Environment Plan (EP), involving decommissioning options for three historical wellheads in WA State waters, approximately 430 km north of Broome.

[View the consultation information sheet.](#)

In preparing the EP, Woodside's intent is to minimise environmental and social impacts and is seeking stakeholder input to inform Woodside's development of the EP.

[Click here to watch Journeys of Discovery - Coral Reefs.](#)

Join the conversation at [woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1030 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

COMMUNITY CONVERSATIONS

Upcoming engagement opportunities

DAMPIER

5 May 2024 | 9:00am - 12:00pm

Dampier Beachside Markets, Hampton Oval

EXMOUTH

19 May 2024 | 8:00am - 12:00pm

Exmouth Community Markets,
Federation Park

Dates and times subject to change.



Woodside is consulting with local communities at local events so you can easily come and chat to us about our operations, decommissioning activities, or proposed projects.

Recently our team talked with community members at the Karratha Shopping Centre and the Dampier Beachside Markets about Environment Plans for the Scarborough State Trunkline Operations and Pluto Operations. We also meet quarterly

with Community Liaison Groups in Karratha and Exmouth where we communicate updates and consult with community members on a range of relevant topics.

If you're interested in what Woodside has planned on land and sea, come and chat to our friendly team and follow the [Woodside North West Facebook page](#) for updates. You can also read our recent [Karratha Community Update here](#).



HAVE YOUR SAY

Woodside consults relevant persons while preparing our Environment Plans to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that may be taken to lessen or avoid potential adverse impacts of the proposed activity on the environment.

We welcome your input so please contact us if you'd like to discuss your functions, interests or activities which may be affected by our proposed activities.

Environment Plan	Activity Type	Location	Consultation Dates
Browse State Wellhead Decommissioning	Decommissioning	430 km north of Broome	25 March - 3 May 2024
North Rankin Complex Operations	Operations	135 km offshore of Dampier	- May - June 2024
Angel Carbon Capture and Storage Geophysical and Geotechnical Surveys	Survey	125 km north-west of Dampier	-May - June 2024
North West Shelf Phase 1 Plug & Abandonment	Decommissioning	-117 km north-west of Dampier	-May - June 2024
Julimar Operations	Operations	160 km north-west of Dampier	-May - June 2024

You can access our consultation information, provide feedback and subscribe for updates by visiting www.woodside.com/what-we-do/consultation-activities or click [here](#).

PROGRESS SNAPSHOT

Environment Plan	Activity Type	Date Accepted	Status
Griffin Field Decommissioning (End State) (Griffin Field Deviation / Griffin Leave In-situ)	Decommissioning	1 March 2024	In progress
Stybarrow Decommissioning and Field Management	Decommissioning	8 January 2024	In progress
Stybarrow Plug and Abandonment	Decommissioning	21 December 2023	In progress
WA-34-L Pyxis Drilling and Subsea Installation (Revision)	Project	21 December 2023	Drilling to commence around May 2024
Scarborough Seabed Intervention and Trunkline Installation	Project	13 December 2023	In progress
Scarborough WA-61-L and WA-62-L Subsea Infrastructure Installation	Project	8 December 2023	In progress
Scarborough Drilling and Completions	Project	1 December 2023	In progress
Griffin Gas Export Pipeline Decommissioning	Decommissioning	30 November 2023	Completed
TPA03 Well Intervention	Project	28 November 2023	In scheduling
Griffin Decommissioning and Field Management	Decommissioning	21 November 2023	In progress

You can view Commonwealth Environment Plans for approved activities and operations by visiting NOPSEMA's website info.nopsema.gov.au/home/approved_projects_and_activities.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1031 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

LET'S TALK

EMBAs AND OIL SPILL MODELLING

Let's talk about EMBAs – what they are, and just as importantly, what they're not. When Woodside talks to community members about our activities, we're often asked about the areas marked on our consultation material referred to as the "Environment that May Be Affected" (EMBA).

EMBAs are an important part of preparing the environmental and emergency response strategies that underpin the planning for our offshore activities.

They are produced as part of our extensive oil spill modelling and response planning. They represent the largest spatial area where a petroleum activity could potentially have a direct or indirect environmental impact.

Understanding the EMBA

The EMBA represents the largest, merged area of many potential paths that a highly unlikely oil spill could travel based on predictions around weather, currents, and other conditions at the time. An EMBA is not a predicted impact of a single oil spill, which would be much smaller, and the extent and path of the impact would only be known at the time it occurred.

This means the area the EMBA covers includes locations where planned activities and unplanned events could potentially occur.

Oil Spill Modelling

While offshore oil spills are extremely rare, it is important oil and gas companies are still ready to prepare for and respond to them. There are several different approaches to oil spill modelling, and Woodside uses these in combination for information about where an oil spill could move, how quickly, and the possible effect of using methods to manage a potential oil spill.

To calculate this, our oil spill modelling involves running many (sometimes hundreds) computer simulations of the same scenario to predict the behaviour of oil under different conditions.

Each simulation is subject to a range of variables, including weather and sea conditions, tides, and times of year. In the model, the oil responds to these conditions and behaves differently in each individual simulation.

Every individual simulation is overlaid on top of the next, allowing statistical analysis of the possible area the oil spill

could travel in the highly unlikely event that a spill occurs. The smooth boundary drawn around all these computer simulations of the spill creates the EMBA. The models process the information based on an assumption there is no emergency response, which would of course not be the case in a real emergency.

Oil spill modelling helps us develop our oil spill emergency management plans and assists in preparedness and response planning. Woodside conducts regular emergency response training exercises involving multiple facets of the business so our teams are ready to respond should they ever need to.

The many simulations used to underpin our planning are estimates and predictions only. It is not possible to exactly predict the outcome until the exact weather and other conditions are known if an oil spill event occurs.

Emergency Management Plans

The emergency management plan informed by the oil spill modelling is submitted to both State and Commonwealth regulators for approval along with all other planning documents for our activities.

Woodside, in more than 60 years, has not experienced any significant uncontrolled release of oil or gas to the environment as a result of loss of well control.

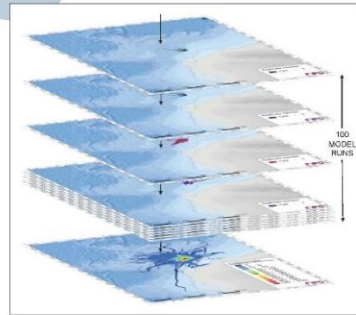


Figure 1: The first stage in EMBA creation is running computer simulations (model runs). Figure 1 shows the model runs for the WA-34-L Pyxis Drilling and Subsea Installation Environment Plan.

Nevertheless, our extensive planning continues, drawing on international good practice, so the impacts and risks associated with our activities are detailed, evaluated and managed to a level that is as low as reasonably practicable.

We are committed to continuous improvement and share our expertise with our peers and take the lessons learned from other operators to incorporate into our management processes.

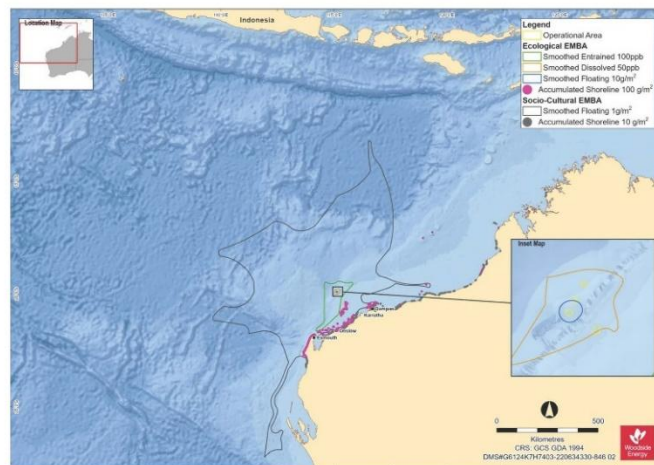


Figure 2: The EMBA is a culmination of all the computer simulations with a smooth boundary. Figure 2 shows the final EMBA for the WA-34-L Pyxis Drilling and Subsea Installation Environment Plan.

Join the conversation at [woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1032 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.5.1.3 Let's Talk July 2024**Hard copy distribution July 2024**

Date	Location	Event (if applicable)
18 July 2024	Karratha	Karratha CLG meeting
25 July 2024	Karratha	City of Karratha office Woodside Visitor Centre
26 July 2024	Karratha	Lo's Coffee Pop-up
2 August 2024	Dampier	Dampier Community Association office
6 August 2024	Karratha	FeNaCING Festival
24-25 August	Onslow	Ashburton Anglers Mack10k
26-28 August 2024	Karratha	Developing Northern Australia conference
28 August 2024	Karratha	Karratha STARS Future Forum

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1033 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Let's Talk July 2024 edition

LET'S TALK

EDITION 3 | JULY 2024

OUR PLANS,
YOUR SAY



Woodside
Energy



WAFIC SEAFOOD AWARDS

Endeavour Foods General Manager Sophie Sharland's empowerment of future leaders in the seafood industry was recognised in early May when she received the Young Achievers Award, sponsored by Woodside Energy, at the 2024 Western Australian Seafood Industry Awards.

This event, hosted biennially by the Western Australian Fishing Industry Council (WAFIC), acknowledges the innovations and achievements within the WA seafood industry.

The Young Achiever Award is one of 14 categories and focuses on individuals who demonstrate positive impacts to the seafood industry.

Sophie is a shining example of the growing number of talented young women working in the commercial seafood industry.

THE RUNDOWN

Woodside Energy Chief Executive Officer and Managing Director Meg O'Neill has said gas producers are ready to work with government to deliver new supplies critical to the energy transition as she highlighted the importance of removing barriers to investment.

On 21 May 2024, welcoming the release in May of the Federal Government's Future Gas Strategy, Ms O'Neill said it provided a clear statement about the critical role gas plays in Australia's economy and will continue to play in the future.

A key point the Strategy makes is that new sources of gas will be needed to meet demand during the energy transition.

Addressing an Australian Energy Producers (AEP) Conference, Ms O'Neill, who is also AEP Chair, said:

"I am pleased the Government is talking about solutions. The industry is ready to roll up our sleeves and work with the Commonwealth to achieve a solution to a shortage which is supply."

"We welcome acknowledgment in the Strategy that we'll need the right regulatory settings to do so."

"Indeed, the success of the Strategy will be measured by whether it delivers policy reforms that address the barriers to new gas supply and investment."

She said the recent passage of Federal legislation relating to the Petroleum Resource Rent Tax (PRRT) had provided certainty.

The changes bring forward PRRT payments from LNG projects. However, in order to facilitate the PRRT payment amendments, the government held off passing other amendments designed to clarify ambiguity around consultation requirements for environmental approvals.

To stay updated, subscribe for future editions at [woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)





"This helps us make future investment decisions. But it has come at the expense of addressing the ambiguity in the consultation process for offshore approvals," Ms O'Neill said.

"Leaving this issue unresolved makes the timely development of new energy supply more difficult."

"The industry stands ready to work with the Government to progress these necessary reforms as soon as possible," she said.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1034 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

COMMUNITY SPOTLIGHT

Karratha Signs

The Scarborough Energy Project will provide a boost to the WA economy and communities, growing jobs and bringing work through the supply chain.

Karratha Signs is one of more than 75 local Karratha businesses who have been working on our Scarborough Energy Project.

Started by Jed and Suzy Griffiths in 1999 in the third bedroom of their home, they have grown to be an award-winning enterprise that operates from premises in Karratha and Port Hedland.

Karratha Signs has designed and manufactured an array of site entry, safety and wayfinding signage for the Pluto Train 2 Project and has been vendors with Woodside since 2022.

Working with Karratha Signs provides Woodside with premium products suited to the Pilbara. The company invests in top-of-the-range equipment to ensure a professional, high-quality result every time.

Using local businesses which understand the areas in which Woodside operates ensures the best possible standards and expertise on the job.

Jed Griffiths said there was a sense of community among the employees on the Pluto Train 2 project.

"We work closely with many different people throughout the company to provide locally made signage that suits their individual requirements. Every member we've spoken to has been open-minded to new signage ideas and eager to assist in the process," Jed said.

"The Pluto Train 2 contract has enabled us to open our doors to more clients – both big and small. We've been able to demonstrate the depth of our professionalism to other high-end customers and ultimately expand our client base."



Click [here](#) to learn more about Karratha Signs and their work on the Scarborough Energy Project.



TALKING POINT

National Energy Technician Training Scheme

A talk at Exmouth High School on the National Energy Technician Training Scheme (NETTS) inspired Taj, an Exmouth local, to apply for an Electrical Instrumentation apprenticeship.

NETTS is a collaboration between Programmed and several energy organisations including Woodside, to develop skilled workers for the future. It's part of Woodside's commitment to local recruitment and providing opportunities to the communities in which we operate.

The first 12 months of the four-year apprenticeship is based in a structured learning environment to provide apprentices with the skills, knowledge and experience required to transition into an onshore or offshore role. Apprentices are taught a variety of life skills designed to prepare them for the transition from school to the workplace.

Taj spent 12 months training at the Australian Centre of Energy and Processing Training and is now offshore at the Woodside-operated Ngujima-Yin, Floating Production Storage and Offloading oil production facility, located 50 km northwest of Exmouth. Taj will work offshore swings and continue his TAFE courses in Perth.

Taj is one of twelve young people currently being hosted by the Woodside NETTS apprenticeship program which has a 98% apprentice retention rate, and in line with Woodside's commitment to inclusion and diversity, First Nations apprentices account for more than 25% of the intake and around 33% are female.

"I've started learning about basic electrical work and it's been interesting, I'm enjoying it. I'm keen to expand my knowledge and ultimately, finish this apprenticeship and hopefully work for Woodside for a decent amount of time and get back up North." Said Taj, NETTS apprentice.

This story demonstrates just one of the ways our operations and projects continue to enable us to make a difference, both in this community and across the state.

 [Read our 2023 North West Australia Community Development Report](#) to learn more.



Billie the dog watching over Taj enjoying days off

Join the conversation at [woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1035 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

COMMUNITY CONVERSATIONS

Woodside consults with local communities at local events so you can easily come and chat to us about our operations, decommissioning activities, or proposed projects.

Recently our team talked with community members at the Pilbara Summit in Karratha, Dampier Beachside Markets, WA Day Festival in Dampier, Exmouth Community Markets and the Onslow community information night.

We also meet quarterly with Community Liaison Groups in Karratha and Exmouth where we communicate updates and consult with community members on a range of relevant topics.

If you're interested in what Woodside has planned on land and sea, come and chat to our friendly team. Visit us at:

FeNaCing Festival 3rd and 4th of August, Bulgarra Oval, between 10 am and 4 pm.

 You can also read our recent Karratha Community Update [here](#).



STAY UP TO DATE
ON OUR CONTINUED
CONTRIBUTION TO
THE COMMUNITY
WE CALL HOME.

SEARCH ON FACEBOOK



HAVE YOUR SAY

Woodside consults relevant persons while preparing our Environment Plans to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that may be taken to lessen or avoid potential adverse impacts of the proposed activity on the environment.

We welcome your input so please contact us if you'd like to discuss your functions, interests or activities which may be affected by our proposed activities.

Environment Plan	Activity Type	Location	Consultation Dates
North Rankin Complex Operations	Operations – 5 yearly review	~135km north-east from Dampier	19 June – 19 July 2024
Angel Carbon Capture and Storage Geophysical and Geotechnical Studies (Commonwealth and State EPs)	Surveys	~9 km north-east of Dampier (State EP) ~ 35 km (closest survey points) - ~140 km (furthest survey point) north of Dampier (Commonwealth EP)	8 July – 9 August 2024
Julimar Operations	Operations – 5 yearly review	~160km north-west of Dampier	15 July – 16 August 2024

 You can access our consultation information, provide feedback and subscribe for updates by visiting: www.woodside.com/what-we-do/consultation-activities

PROGRESS SNAPSHOT

Environment Plan	Activity Type	Date Accepted	Status
NWS and Julimar Exploration Wellhead Decommissioning Environment Plan	Decommissioning	3 July 2024	Scheduled for August 2024
Angel Operations Environment Plan (Lambert West Drilling)	Operations / Project	25 June 2024	In scheduling
Julimar Development Phase 3 Drilling and Subsea Installation Environment Plan	Project	10 June 2024	In scheduling
Stybarrow Decommissioning and Field Management / End State	Decommissioning	23 May 2024	In progress
Goodwyn Alpha Geophysical and Geotechnical Surveys Environment Plan	Project	30 May 2024	Scheduled for August 2024
Griffin Field Decommissioning (End State) (Griffin Field Deviation / Griffin Leave In-situ)	Decommissioning	1 March 2024	In progress
Stybarrow Plug and Abandonment	Decommissioning	21 December 2023	In progress
WA-34-L Pyxis Drilling and Subsea Installation (Revision)	Project	21 December 2023	In progress
Scarborough Seabed Intervention and Trunkline Installation	Project	13 December 2023	In progress
Scarborough WA-61-L and WA-62-L Subsea Infrastructure Installation	Project	8 December 2023	In progress
Scarborough Drilling and Completions	Project	1 December 2023	In progress
TPAO3 Well Intervention	Project	28 November 2023	In scheduling
Griffin Decommissioning and Field Management	Decommissioning	21 November 2023	In progress

 You can view Commonwealth Environment Plans for approved activities and operations by visiting: info.nopsema.gov.au/home/approved_projects_and_activities or click [here](#).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1036 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

LET'S
TALK

INFRASTRUCTURE GETS SECOND LIFE

Woodside's largest ever decommissioning campaign to date is currently in full swing with a range of activities completed or planned across the Enfield, Echo Yodel, Stybarrow and Griffin fields off the coast of Western Australia and activities planned at the Minerva field in Victoria.

Involving the removal of an estimated 35,000 tonnes of infrastructure including more than 350 km of pipe, flowlines and umbilicals and a range of other equipment, approximately 95% is planned to be recycled or reused.

Woodside has engaged a range of contractors (including international contractors) that bring significant subsea experience, technical know-how, and that use specialist offshore vessels for safe and reliable execution of campaign activities. Specialist vessels include mobile offshore drilling units required for well plug and abandonment activities, light construction vessels for removal of subsea structures and pipe, and heavy lift vessels to remove large structures including riser turret moorings.

Woodside is working with a variety of Australian businesses, many with experience supporting defence, mining and refinery disposal, which are assisting the business to complete oil and gas decommissioning activities. Companies such as McMahon, RPA, C.D. Dodd and Birdon are playing leading roles in onshore disposal scopes, adapting established processes and pathways to support the unique requirements of the oil and gas industry.

Because of the specific needs of the campaign, new onshore facilities are being developed by sub-contractors to support and complement existing facilities.

Some large infrastructure, such as the Nganhurra Riser Turret Mooring removed in late 2023, is typically taken to the Australian Marine Complex at Henderson to be cleaned and deconstructed in preparation for recycling and reuse. Infrastructure such as pipe, flexibles and umbilicals are unloaded from offshore up to three times a week at facilities near Onslow including the Port of Ashburton.



The infrastructure is then taken to a facility established by sub-contractors C.D. Dodd and RPA at the nearby Pilbara Regional Waste Management Facility where it is decontaminated and cleaned before it's transported to another C.D. Dodd facility in Karratha for deconstruction and sorting into its constituent parts in preparation for recycling.

Woodside recently hosted Shire of Ashburton President Audra Smith, Cr Brie Healy, Cr Rosanne Kapor, Cr Linton Rumble, and Deputy CEO Jo Sangster at the decommissioning facility near Onslow. With many local businesses supporting decommissioning activities, the site visit was a great opportunity to inform stakeholders about the campaign's progress and the importance of working with the Shire to its success.

"I am immensely proud of the progress we have witnessed during our recent site visit. Woodside's decommissioning campaign, one of the largest in Australia, reinforces our commitment to responsible resource management and environmental stewardship in the Shire of Ashburton."

The efforts of the lead contractor, TechnipFMC, in removing over 35,000 tonnes of offshore infrastructure, and the work of RPA and C.D. Dodd in recycling these materials, highlight the impressive collaboration and innovation driving this project. This initiative not only supports our goal of sustainable development but also contributes significantly to the local economy. As we move towards completing this campaign by the end of 2025, I am confident that our continued dedication will produce outstanding results for both the industry and the community." – Shire of Ashburton President Audra Smith.



Shire of Ashburton President Audra Smith, Cr Brie Healy, Cr Rosanne Kapor, Cr Linton Rumble, and Deputy CEO Jo Sangster visiting the decommissioning facility near Onslow.

Join the conversation at [woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1037 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.5.1.4 Let's Talk November 2024**Hard copy distribution November 2024**

Date	Location	Event (if applicable)
15 November 2024	Karratha/ Dampier/ Roebourne	Community engagement Dampier Community Association office City of Karratha office Exmouth Community Drop-In Karratha Visitor Centre
27 November 2024	Karratha	KDCCI opportunities
29 November	Karratha	Karratha CLG meeting

Let's Talk November 2024 edition



Let's Talk

Our Plans, Your Say

Edition 4 | November 2024



The rundown

North West Shelf Visitors Centre welcomes Wanparta



The Ngarla people at the North West Shelf Visitors Centre.

We acknowledge the unique connection that First Nations communities have to land, waters and the environment and seek to consult them in relation to our operations and proposed projects.

As part of our ongoing consultation with First Nations groups, Woodside Energy recently hosted 13 Traditional Owners from Ngarla country at the North West Shelf Visitors Centre, so they could see our operations first hand.

The Ngarla people are the Traditional Owners of an area of land east of Port Hedland that covers the De Grey and Pardoo pastoral stations in Western Australia's North West.

Woodside Manager First Nations Engagements, Michael Roe said that Wanparta Aboriginal Corporation as the Prescribed Body Corporate for the Ngarla people, had been identified as a

relevant person to consult with on previously submitted and present Environment Plans.

"The Ngarla people were interested in learning more about the world of gas, and as part of the consultation process were invited to Karratha for a visit to the North West Shelf Visitors Centre overlooking the Karratha Gas Plant."

"This provided an occasion to build trust and understanding whilst providing the opportunity to provide feedback on our activities. In this case we were consulting on the five-yearly review of the Pluto Facility Operations Environment Plan," said Michael.

An accepted Environment Plan is required in order for Woodside to carry out activities. Meaningful conversations with First Nations people are documented and make up part of an Environment Plan

Munro's Mack10k Fishing Competition

Munro's Mack10k 2024 Fishing Competition, held in Onslow from 24-25 August 2024, saw hundreds of anglers and fishing enthusiasts from across Australia enter into the running for a chance to reel in \$10,000.

The event doubles up as a research initiative, spearheaded by Recfishwest's Fishing for Science program and supported by Woodside Energy.

Working with the Department of Primary Industries and Regional Development, the Recfishwest science team collected biological samples from mackerel caught by competitors, providing insight into the health of the local fish population.

Read more about the annual competition, hosted by the Ashburton Angler Fishing Club by visiting: recfishwest.org.au



submitted to regulatory bodies for assessment ahead of continued operation.

Wanparta Aboriginal Corporation Chairperson, Mary-Jo Coppin said, "the trip was really informative with good consultation, well organised and we felt very welcome at the facility."

A key element of Woodside's consultation efforts is our willingness to be flexible and adaptable to suit the audience in our overall efforts to avoid or minimise potential impacts from our operations.

To stay updated, subscribe for future editions at [woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1039 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Community spotlight

Wangarri Crane and Equipment Hire

Murujuga Commercial Limited's (MCL) first Pilbara business, Wangarri Crane and Equipment Hire (Wangarri), has been awarded the contract for supply and maintenance of cranes and forklifts for the Pluto Train 2 Project, the onshore component of the Scarborough Energy Project.

Established by MCL as a joint venture with Boddington's Hire, Wangarri provides a range of lifting equipment that includes cranes, forklift trucks, reach stackers and telehandlers for hire to the resource sector and other industrial clients across the Pilbara.

One of five commercial ventures managed by MCL, Wangarri forms a portfolio of businesses and commercial ventures that aim to provide a strong and economic future for its Murujuga members.

Wangarri means "Coming to Life" in Yindjibarndi, which represents MCL's journey as it moves from a start-up phase toward building business streams that align to the strategic goals and objectives of the Murujuga Aboriginal Corporation.

Bechtel, the appointed contractor for the Pluto Train 2 project, delivers engineering, procurement, construction and commissioning, has awarded contracts to local Indigenous businesses, such as Wangarri to deliver a variety of work scopes.

"We are very happy to be working with Wangarri on Pluto Train 2. We deeply value this local contract and appreciate their professionalism and dedication to providing safe and high-quality cranes and forklifts," said Bechtel Pluto Train 2 site manager Terry Klowss.

Jig Albert, MCL Managing Director said the contract with Bechtel on Pluto Train 2 had been an enormous stepping stone for their business.

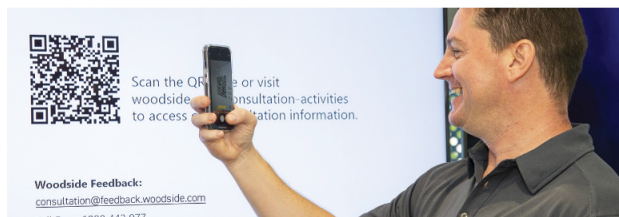


"We have been contracted to provide a range of the smaller cranes for the project. Mostly this consists of Franna pick and carry cranes, however we are also providing a 160 tonne all-terrain crane and a small three tonne Maeda spider crane, as well as the ongoing maintenance of these machines," said Jig Albert.

"It has given our business the confidence to invest in our own equipment which will drive equity for the business and in turn provide a direct return to Murujuga Aboriginal Corporation members."

[Learn more about Wangarri Crane and Equipment Hire and their work on the Scarborough Energy Project](#)

The importance of consultation



"Like safety, consultation continues to be a core focus for NOPSEMA," Sue McCarrey, CEO, NOPSEMA ([Source: The Regulator, 2024, Issue 2](#))

Consultation is a key component of Woodside's environmental planning and can involve a two-way process with relevant persons who wish to provide feedback on operations or proposed offshore activities.

Consultation enables Woodside to confirm current measures or identify additional measures, if any, that could be taken to lessen or avoid potential adverse effects of the proposed activity on the environment. It is a key requirement of Australia's offshore environmental management framework and Environment Regulations.

An appropriate consultation approach which meets regulatory requirements enables

Regulators such as the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for Commonwealth activities, or the Department of Energy, Mines, Industry Regulation and Safety for state activities, to assess and accept Environment Plans (EP).

Woodside is committed to open and transparent consultation and does this by providing clear information on proposed activities, assessing and responding to objections or claims about the activity, and providing a reasonable period of time and opportunity for a relevant person to provide feedback.

If required due to the nature and scale of a proposed activity, Woodside undertakes additional consultation activities over a longer period to ensure a reasonable period

of time period and sufficient information has been provided. This allows for an informed assessment of the possible consequences of the activity on stakeholders' (referred to as a 'relevant person' under Commonwealth regulations) functions, interests or activities.

Subscribe to stay up-to-date

On Woodside's website we enable members of the public to subscribe to receive information about EPs as it becomes available.

Subscribing is a great way to stay informed about updates and important information related to Woodside's activities. It also provides the public with timely notifications about new projects, environmental initiatives, community engagements, and consultation information sheets for proposed activities.

Woodside has updated its consultation email address to consultation@feedback.woodside.com

To subscribe to Woodside's consultation activities [click here](#) and enter your details on the page.

Join the conversation at [woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1040 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.



Community conversations

Woodside consults local communities at local events. If you see our friendly team out-and-about, please come and chat to us about our operations and projects.

Recently our team engaged with community members at pop-up Environment Plan information sessions in Karratha and Exmouth and participated in the Dampier Beachside Markets. Our teams also recently met with stakeholders in Broome, Onslow and Roebourne.

We also meet quarterly with Community Liaison Groups in Karratha and Exmouth where we communicate updates and consult with community members on a range of relevant activities.

If you're interested in what Woodside has planned on land and sea, come and chat to our friendly team and follow the Woodside North West Facebook page for updates including our Karratha Community Update newsletter.

Stay up to date on our continued contribution to the community we call home.

SEARCH ON FACEBOOK OR [CLICK HERE](#)



Have your say

Woodside consults relevant persons while preparing our Environment Plans to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that may be taken to lessen or avoid potential adverse impacts of the proposed activity on the environment.

We welcome your input so please contact us if you'd like to discuss your functions, interests or activities which may be affected by our proposed activities.

Environment Plan	Activity Type	Location	Consultation Dates
NWS Phase 1 Well P&A and TPA03 Well Intervention	Decommissioning and Project	125 - 138 km north / north-west of Dampier	27 September to 30 October 2024
Angel Subsea Infrastructure Removal	Decommissioning	125km north of Dampier	30 September to 1 November 2024



You can access our consultation information, provide feedback and subscribe for updates by [clicking here](#).

Progress snapshot

Environment Plan	Activity Type	Date Accepted	Status
Minerva Decommissioning and Field Management	Decommissioning	14 October 2024	In progress
NWS and Julimar Exploration Wellhead Decommissioning	Decommissioning	3 July 2024	In progress
Angel Operations (Lambert West Drilling)	Operations / Project	25 June 2024	In scheduling
Julimar Development Phase 3 Drilling and Subsea Installation	Project	10 June 2024	In scheduling
Stybarrow Decommissioning and Field Management / End State	Decommissioning	23 May 2024	In progress
Goodwyn Alpha Geophysical and Geotechnical Surveys	Project	30 May 2024	In progress
Griffin Field Decommissioning (End State) (Griffin Field Deviation / Griffin Leave In-situ)	Decommissioning	1 March 2024	In progress
Stybarrow Plug and Abandonment	Decommissioning	21 December 2023	In progress
Scarborough Seabed Intervention and Trunkline Installation	Project	13 December 2023	In progress
Scarborough WA-61-L and WA-62-L Subsea Infrastructure Installation	Project	8 December 2023	In progress
Scarborough Drilling and Completions	Project	1 December 2023	In progress
Griffin Decommissioning and Field Management	Decommissioning	21 November 2023	In progress

You can view Commonwealth Environment Plans for approved activities and operations by visiting: info.nopsema.gov.au/home/approved_projects_and_activities

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1041 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Milestone celebrations at FeNaCING Festival

The City of Karratha recently hosted the FeNaCING Festival, bringing together community and celebrating the region's key industries – iron (Fe), sodium chloride, commonly known as salt (NaCl), and natural gas (NG).

Woodside Energy, along with its joint venture partners, proudly supported the event, with a pavilion that featured Woodside's 70th anniversary as a company and 40th year of safe and reliable operations in the North West.

Woodside CEO Meg O'Neill made a special appearance at the festival, meeting local community members and helping with a range of giveaways on offer.

Meg praised the event organisers who successfully celebrated the community spirit that makes Karratha a great place to live and work.

"We know that such a significant milestone could only be achieved with the support of our people and the Karratha community," she said. "I was really thrilled to have the opportunity to join our team in the Woodside marquee as they engaged with the community about issues that matter to them and answered questions about our operations and growth projects."

Many attendees who visited the Woodside marquee expressed curiosity about Woodside's Environmental Plans and other topics including Carbon Capture and Storage, the Scarborough Energy Project and the development of Browse.

Woodside's active participation in events like the FeNaCING Festival supports our consultation approach to engage the community on our current business activities, including opportunity to provide feedback on our Environment Plans.



Join the conversation at [woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1042 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.5.1.5 Let's Talk March 2025

Hard copy distribution March 2025

Date	Location	Event (if applicable)
8 March 2025	Karratha	KDCCI International Women's Day
11-13 March 2025	Perth	Energy Exchange Australia Conference
11 March 2025	Karratha	Woodside NWS Visitor Centre City of Karratha office
21 March 2025	Karratha	Karratha CLG
21 March 2025	Dampier	Dampier Community Association office

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1043 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

5.5.1.6 Let's Talk October 2025



Let's Talk

Our Plans, Your Say

Edition 6 | October 2025



Goodwyn A Platform
approximately 140 km
north-west of Karratha.

The rundown

Goodwyn Area Infill Development Offshore Project Proposal gets the green light

Following NOPSEMA's acceptance of the Goodwyn Area Infill Development Offshore Project Proposal (GWA OPP), Woodside is planning to develop new gas wells about 140 km north-west of Karratha.

The development will make better use of space at the Goodwyn A platform by bringing in extra gas and condensate from up to 8 new wells.

This is a phased development expected to deliver first gas in 2027-2028.

Environment Plans (EPs) supporting the development include:

- Goodwyn Alpha Geophysical and Geotechnical Surveys (Rev 2)
- Greater Western Flank Phase 4 (GWF-4) Drilling and Subsea Installation – consultation closed 27 August 2025.

We currently anticipate consulting on a revision for the GWA Operations EP that will include the proposed new wells in the first half of 2026.

Upcoming engagement opportunities

Woodside is consulting with local community members at events, making it easy to speak to us about our operations, decommissioning activities and proposed projects.

If you're interested in what Woodside has planned on land and sea, come and chat to our friendly teams at the locations below, follow the Woodside North West Facebook page or email us at: consultation@feedback.woodside.com

Dampier

- Dampier Beachside Markets
Saturday, 18 October and
8 November 5:30pm to 8:30pm
Hampton Oval, Dampier, WA, 6713

Exmouth

- Exmouth Community Markets
Sunday, 5 October 8:00 am to
12:00 noon Federation Park,
Exmouth, WA, 6707



Follow us on Facebook
by [clicking here](#)



Come and speak to our friendly team.

To stay updated, subscribe for future editions at
[woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1044 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Community conversations

The way we engage is based on building trust and understanding to support long-term relationships.

We emphasise open and accessible communication and feedback on our activities. One way we do this is by inviting community to engage with Woodside at popular community events.

Woodside and our joint venture partners were pleased again to sponsor the City of Karratha's Red Earth Arts Festival (REAF) at The Quarter where we helped activate and transform the area into a hub of artistic and cultural activity.

This year's festival featured over 100 performances, workshops, and experiences. Over 9,200 people attended the four-day festival, with 90% of programming free to the community.

The main attraction was 'The Whale' installation, which invited viewers to operate the strings of a large whale puppet and its sea friends while listening to whale vocalisations – an immersive experience enjoyed by all ages.

Artists from Yinjaa-Barni Art Group painted and displayed art, welcoming the public to watch the creation of several pieces and engage in conversations.

A community concert featured roving entertainment, stage performances, music, food trucks and markets.

At our Woodside tent, we engaged with the Karratha community discussing Woodside's work in the North West, our EPs, current and proposed projects and we listened to community feedback.

Woodside, on behalf of the Scarborough Joint Venture, was also proud to support the new biennial Ningaloo Sky Festival in Exmouth recently. The three-day event showcased the region's vibrant culture, food and community.

A key event was a market day at Talanjee Oval featuring local artists and makers, roving entertainers, a kite show, animal petting farm and food trucks.

At our Woodside stand, we chatted with visitors about our EPs and Woodside's



Ningaloo Sky Festival drone show.

activities in the Exmouth region, and listened to people's feedback.

A drone show highlighting stories of the region's Traditional Owners and a free community concert by iconic Aussie rock band Eskimo Joe capped off the day.

Other events included astronomy talks highlighting the star-filled Ningaloo night sky, unique dining experiences, sunrise yoga, cultural talks and a community movie night.

Woodside's also met with the Exmouth Community Liaison Group to provide updates on relevant projects and activities.

Talking point

Pygmy blue whales: feeding discovery

In an Australian first, scientists have recorded where and when pygmy blue whales feed as they migrate along the WA coast, thanks to research co-funded by Woodside Energy.

Every year, many whale species and thousands of individual whales migrate through the offshore waters of WA's north-west.

Luke Smith, Woodside Head of Biodiversity and Science, says collaboration with researchers is helping us better understand these whale species and their annual migration.

"In recent years, we – together with our joint venture partners – have invested heavily in numerous whale research programs," Luke points out.

"We continue to deepen our understanding of these magnificent animals and their natural habitat."

One of our research programs focuses on pygmy blue whales, a species that belies its name and can measure up to 24 metres long and weigh 90 tonnes. They undertake an annual northern migration from south-east Australia up through offshore waters of WA to Indonesia before returning five to six months later.



Photo credit: Grace Russell, Centre for Whale Research.

The research led by the Australian Institute of Marine Science and the Centre for Whale Research, found the whales aren't just migrating but also feeding enroute to their Indonesian breeding grounds – something never previously recorded with telemetry in the north-west waters of WA. Unlike humpback whales, commonly seen as they play and frolic near to shore on their annual migration along the WA coast, pygmy blues spend little time at the surface and migrate in deeper offshore waters. To understand this species we've turned to the latest technology.

Using satellite tags and dive loggers (think Fitbits for whales), scientists tracked nine pygmy blues as they searched for prey. Previously, it was thought feeding only occurred at the Perth Canyon and Ningaloo but researchers documented them snacking on the go, too.

The whales were recorded performing deep dives with lunge feeding – a high-

speed move where they engulf dense swarms of krill.

The findings are helping researchers deepen their understanding of the species' annual migration, while providing us with more knowledge to include in EPs, improving how we avoid or minimise potential impacts.

"As whale species continue to recover and whale numbers migrating through north-west Australia increase, we'll continue to develop technology and approaches to improve our management of whale interactions," reports Luke.

"It's crucial we further reduce potential impacts, support future project approvals and contribute to science along the way."

Luke believes we can continue to successfully co-exist in the marine environment while simultaneously contributing to the study of these complex, remarkable mammals.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1045 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

Consultation opportunities

Environment Plan	Activity Type	Location	Consultation Dates
Angel CCS Geophysical and Geotechnical Surveys - Update	Survey	~ 35 km from Dampier	October 2025
Echo Yodel Subsea Decommissioning	Decommissioning	~ 140 km north-west of Dampier	October 2025
NWS Phase 1 P&A and TPA03 Well Intervention EP - Update	Decommissioning	Closest well to shore is ~ 125 km north of Dampier	September to October 2025
Pluto 4D M3 Marine Seismic Survey	Survey	~ 28 km north-west of the Montebello Islands and 150 km north-west of Dampier	September to October 2025
Julimar & Brunello P&A	Decommissioning	~ 185 km west north-west of Karratha	August 2025
GWF-4 Drilling and Subsea Installation	Drilling and installation	~140 km north-west of Dampier	July to August 2025

Progress snapshot

Environment Plan	Activity Type	Date Accepted	Activity Status
Julimar Operations	Operations	7 July 2025	In progress
Pluto Operations	Operations	5 May 2025	In progress
Minerva Plug and Abandonment	Decommissioning	9 January 2025	In progress
Macedon Operations	Operations	24 December 2024	In progress
Ngujima-Yin Floating Production Storage and Offtake (FPSO) Operations	Operations	19 December 2024	In progress
Minerva Decommissioning and Field Management (State)	Decommissioning	27 November 2024	In progress
Minerva Decommissioning and Field Management (Commonwealth)	Decommissioning	14 October 2024	In progress
NWS and Julimar Exploration Wellhead Decommissioning	Decommissioning	3 July 2024	In progress
Goodwyn-Alpha Geophysical and Geotechnical (Rev 2)	Survey	30 May 2024	In progress

Have your say

Woodside consults relevant persons while preparing our Environment Plans to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that may be taken to lessen or avoid potential adverse impacts of the proposed activity on the environment.

We welcome your input so please contact us if you'd like to discuss your functions, interests or activities which may be affected by our proposed activities.



You can access our consultation information, provide feedback and subscribe for updates by [clicking here](#)

Right: Woodsiders keen to chat with community at the Ningaloo Sky Festival.



You can view Commonwealth Environment Plans for approved activities and operations by visiting: info.nopsema.gov.au/home/approved_projects_and_activities



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1046 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.



Okha FPSO, approximately 115 kilometres north-west of Dampier

Let's talk about... FPSOs

Woodside has been producing oil from its Australian assets through Floating Production Storage and Offloading (FPSO) facilities since 1995. Woodside currently has three FPSOs in operation in North West Western Australia.

An FPSO facility is a vessel used in offshore oil and gas production, processing hydrocarbons from subsea wells, storing the oil onboard, and offloading it to tankers for transport. During normal operations, an FPSO is operated by 50 to 100 personnel onboard at any given time. These roles include production operators, marine crew, engineers, safety officers, catering staff, and support personnel.

Moored approximately 115 kilometres north-west of Dampier, the Okha FPSO has been producing oil and gas from the Cossack, Wanaea, Lambert, and Hermes oil fields. Crude oil is offloaded to bulk tankers, and LPG-rich gas is exported to the North Rankin Complex before being processed at the Karratha Gas Plant.

Woodside operates two offshore assets off Exmouth: the Ngujima-Yin and Pyrenees FPSO facilities.

The Ngujima-Yin FPSO is located over the Vincent oil field, 50 kilometres north-west of Exmouth. Ngujima-Yin is a Thalanyji word meaning "to dream". The Greater Enfield Project, completed in 2018, involved developing several oil accumulations through a subsea tie-back to Ngujima-Yin. This project included a major refit of the

FPSO, installation of subsea infrastructure, and the drilling of 12 development wells.

The Pyrenees FPSO commenced operations in 2010 and consists of six conventional oil fields located 45 kilometres north-west of Exmouth.

The Ningaloo region is recognised for its high ecological importance, boasting unique environmental, social, and cultural values, extending across 280 kilometres of coastline between Exmouth and Carnarvon. It is a global biodiversity hotspot and was inscribed on the World Heritage List in 2011.

To better understand and manage the environmental features of the region, Woodside has supported a range of multi-year projects through its environmental partnerships program.

These projects focus on iconic species and habitats across different ecosystems along the Ningaloo Reef and Exmouth Gulf. Woodside's social investment and science-funded projects contribute to conservation efforts, biodiversity education, and community engagement at local and regional scales.



You can read more about this exciting region by [clicking here](#)

Scarborough's subsea infrastructure now in place

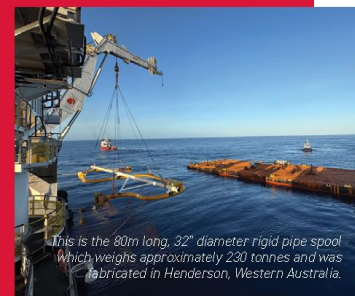
The Scarborough Energy Project has reached another exciting milestone—this time beneath the waves. The team has successfully completed the penultimate subsea installation campaign, marking a significant step toward first LNG cargo in the second half of 2026.

Approximately 375 km off the Pilbara coast, over 400 pieces of subsea equipment have now been assembled and installed in the Scarborough field, including the impressive 305-tonne Riser Base Manifold. With all critical infrastructure in place and tested, the project is now more than 86% complete (excluding Pluto Train 1 modifications) and ready for the hook-up and commissioning of the floating production unit (FPU) upon its arrival.

The Scarborough Offshore Facility and Trunkline (Operations) Environment Plan (EP) is now approved, setting out how Woodside will manage environmental risks and impacts associated with offshore operations. The EP covers activities such as FPU installation, commissioning, and ongoing operations, as well as inspection, maintenance, and repair of subsea infrastructure.



Read more about the Scarborough Energy Project by [clicking here](#)



This is the 80m long, 32" diameter rigid pipe spool which weighs approximately 230 tonnes and was fabricated in Henderson, Western Australia.

Join the conversation at [woodside.com/what-we-do/consultation-activities](https://www.woodside.com/what-we-do/consultation-activities)



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: PYHSE-E-001

Revision: 5

Page 1047 of 1047

Uncontrolled when printed. Refer to electronic version for most up to date information.

APPENDIX G: PROGRAM OF ONGOING ENGAGEMENT WITH TRADITIONAL OWNERS

Proposed Program of Ongoing Engagement with Traditional Custodians

This Program of Ongoing Engagement with Traditional Custodians ("Program") has been developed to demonstrate Woodside's commitment to ongoing engagement and support of Traditional Custodians' capacity to care for and manage Country, including Sea Country, and has been directly informed by Traditional Custodians' feedback regarding their capacity to engage and consult on Environment Plans.

It is a living document designed to evolve with ongoing consultation and feedback from Traditional Custodians and, at a minimum, will be subject to annual review. In addition to this Program, Woodside will continue to participate in, and support collective industry engagement with Traditional Owners on the development of a future, sustainable, industry wide Program. Through the Program, Woodside actively supports Traditional Custodians' capacity for, and involvement in, ongoing engagement and feedback on environment plans.

The Program has been developed so that Traditional Custodians can, on an ongoing basis, provide Woodside with feedback relating to the possible consequences of an activity to be carried out under an environment plan on their functions, interests and activities as they relate to cultural values. This feedback will be evaluated in conjunction with Traditional Custodians and, where necessary, avoidance or mitigation strategies will be developed in collaboration with Traditional Custodians. How the Program is implemented with specific Traditional Custodians will depend on their stated needs and priorities.

The Program is underpinned by Woodside's First Nations Communities Policy (woodside.com), the objective of which is to ensure Woodside partners and engages with First Nations communities to create positive economic, social and cultural outcomes that leave a lasting legacy. Woodside does this through building respectful relationships and partnerships with First Nations communities where we are active, in the areas where they are most interested in. We acknowledge the unique connection that First Nations communities have to land, waters and the environment.

The Program will include, as agreed with relevant communities, reasonable commitment to:

1. Support for ongoing dialogue and engagement

Woodside will support the capacity of Traditional Custodians to participate in ongoing dialogue and engagement about the environment plans and to enable the ongoing and future identification of cultural values potentially impacted by Woodside's activities. Woodside further commits to agreeing consultation protocols with individual Traditional Custodians to ensure the material provided is appropriate in level of detail such that the potential for cultural impact from Woodside activities can be determined and as required measures can be adopted to avoid or minimise impact.

In addition, Woodside will receive feedback on cultural values from an individual person or organisation that identifies as a Traditional Custodian, at any stage during the development and implementation of activities. This feedback will be evaluated, in conjunction with the Traditional Custodian individual or group and if required, control measures will put in place to avoid impacts to cultural values, or where avoidance is not possible, to minimise and mitigate the impacts to an acceptable level.

Where cultural values are identified post activity completion, any controls relevant to value management will be implemented during the next relevant activity.

2. Support for the identification and recording of cultural features

Woodside will support Traditional Custodians to record and articulate their Sea Country values and will invest in cultural assessments codesigned with Traditional Custodians, where required, to inform potential risks to cultural values from our petroleum activities.

This may include supporting cultural mapping by Traditional Custodians to identify and map significant cultural features including archaeological sites and other cultural values. The scoping of the mapping process will be codesigned with Traditional Custodians.

Woodside understands that cultural knowledge remains the intellectual property of Traditional Custodians and will agree with Traditional Custodians at the outset how that information from surveys will be used to feedback into and inform the environment plan's design and implementation.

In addition, Woodside applies the Cultural Heritage Management Procedure 2019, updated in 2023, to the Program which:

- provides a process for the identification, protection, and management of Cultural Heritage taking into account relevant standards, in particular, the United Nations Declaration on the Rights of Indigenous Peoples, the Charter for the Protection and Management of the Archaeological Heritage, the Convention for the Safeguarding of the Intangible Cultural Heritage, and the Convention on the Protection of the Underwater Cultural Heritage;
- applies to underwater cultural heritage and, consistent with current practice, provides for the commissioning of (where appropriate) both archaeological and ethnographic assessments of cultural values over the submerged landscape; and
- the process includes the following:
 - early engagement with relevant Traditional Custodians
 - identification of potential heritage, this could include desktop and field surveys undertaken with the Traditional Custodians.
- the development of cultural management strategies; and, where it is determined cultural heritage may be impacted, the development of Cultural Heritage Management Plans codesigned with Traditional Custodians and implemented by Woodside's First Nations team which:
 - focus on avoidance or minimisation of impacts; and
 - provide regular reviews and for inclusion of new information and further development of the Cultural Heritage Management Plan.

Woodside is committed to continue to receive feedback on cultural values for the life of an environment plan, the inclusion of new information and the development of avoidance or mitigation strategies in collaboration with Traditional Custodians. This information will be recorded via the Woodside Management of Knowledge Process and any potential impacts to the accepted Environment Plan evaluated via the Woodside Management of Change Process.

3. Building capacity for the ongoing protection of country

Woodside will support measures to increase the capability and capacity of the Traditional Custodian groups. This is guided by Woodside's Indigenous Affairs Strategy 2019 ("Strategy"), which is designed to enable the building and maintaining of relationships with Traditional Custodians to leave a lasting legacy, including strengthening of Traditional Custodians' capacity to care for and manage Country, including Sea Country. The Strategy was developed with inputs from Traditional Custodians and contains four pillars that direct Woodside's social investment, policies relating to economic development, procurement and employment, and Woodside's agreement making and implementation of agreements. The pillars are:

1. Culture and Heritage Management: support social outcomes through protection, recognition and respect for culture and heritage;
2. Economic Participation: provide training, jobs, and business opportunities;

3. Capability and capacity: ensure strong corporate governance, leadership development and education initiatives to support self-determination; and
4. Safer and Healthier Communities: partner with Aboriginal people and service providers to maximise safer and healthier community outcomes.

Woodside is committed to an ongoing relationship between Woodside and the Traditional Custodian groups. Through consultation with Traditional Custodians Woodside will continue to:

- establish support for Indigenous ranger programs via social investment;
- establish support for Indigenous oil spill response capability via investigating training models;
- establish support for identification and recording of cultural values and the management of that information by Traditional Custodians;
- establish support for programs identified by the Traditional Custodians as important to them and as agreed by Woodside.

4. Support for capacity and capability in relation to governance

Pillar 3 of the Indigenous Affairs Strategy 2019 focuses on ensuring strong corporate governance, leadership development and education initiatives to support self-determination. To enable this, Woodside will support measures to increase the capability and capacity of the Traditional Custodian groups, including in relation to governance and management systems.

The nature of this support will be informed by the individual needs of Traditional Custodian groups, but may include:

- funding or other support for community meetings, particularly where consultation with representative bodies lies outside of that body's core business and cultural authority or mandate needs to be secured,
- resourcing internal expertise so that information is managed consistently and internally, including ensuring appropriate record keeping of consultation to provide stakeholders with a lasting record of discussions, and
- development or upgrade of IT systems to manage information.

5. Program Reporting and Review of Effectiveness

Woodside will undertake an annual review of the Program to assess its effectiveness and adapt the Program accordingly. The annual review will also include an assessment of appropriateness of the methods used to undertake ongoing consultation with Traditional Custodians.

Progress of the Program will be reported annually in line with annual sustainability reporting via the Woodside website.

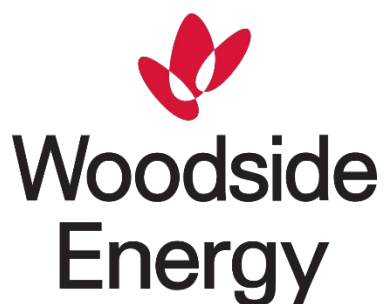
6. Current Status

Following distribution of this proposed Program, Woodside is now participating in a number of specific ongoing consultation activities with Traditional Custodian Relevant Persons. Specific ongoing activities are tabulated below:

Traditional Custodian Relevant Person	Ongoing Consultation Description	Forward Plan	Estimated Timeframes
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	BTAC proposed a Collaboration Agreement in May 2023, Woodside agreed in principle, and exchanged correspondence to understand details of the proposal. The Collaboration Agreement would enable support for BTAC to undertake an ethnographic assessment to articulate values, and ensure appropriate cost recovery.	Woodside and BTAC have executed a Costs Acceptance Letter. Woodside provided a draft Consultation Agreement to BTAC in February 2024. Woodside will follow up with BTAC to progress the Agreement.	Woodside will follow up with BTAC regarding the draft proposed Consultation Agreement monthly for at least six months or until the Agreement is in place.
Yamatji Marlpa Aboriginal Corporation (YMAC)	In June 2023, YMAC provided Woodside a proposed draft Framework Agreement, and a proposal to fund in-house expertise to support consultation and implement the Collaboration Framework. In July 2023, Woodside agreed in principle to the proposed Collaboration Framework and the funding proposal and requested a meeting to work together on details. Woodside provided the Proposed Program of Ongoing Consultation to complement the proposed Collaboration Framework.	Woodside provided a draft Consultation Agreement to YMAC for NTGAC, who are represented by YMAC, in February 2024. Woodside will follow up with YMAC to progress the Agreement	Woodside will follow up with WAC regarding the draft Consultation Agreement monthly for at least six months or until the Agreement is in place.
Wirrawandi Aboriginal Corporation (WAC)	In August 2023, WAC proposed a Framework Agreement with Woodside to provide a streamlined, formalised approach to consultation between WAC and Woodside. Woodside has confirmed receipt of the proposed framework from WAC.	Woodside provided a draft Consultation Agreement to WAC in March 2024. WAC have previously advised that they do not object to Woodside progressing environmental plans on the proviso that both parties enter into an Agreement suitable to each party. Woodside will follow up with WAC to progress the Agreement.	Woodside will follow up with WAC regarding the draft Consultation Agreement monthly for at least six months or until the Agreement is in place.
Ngarluma Aboriginal Corporation (NAC)	In September 2023, NAC proposed a Joint Working Group to practically manage consultation processes. It was proposed that the group would meet monthly for 2023 and quarterly thereafter, meetings would include NAC CEO and NAC Directors and potentially independent SME/s, the proposal was that Woodside draft a Framework Agreement, and included a request for funding for this approach. Woodside provided in-principle support for the proposal.	Woodside provided a draft Consultation Agreement to NAC in March 2024. Woodside will follow up with NAC to progress the Agreement.	Woodside will follow up with NAC regarding the draft Consultation Agreement monthly for at least six months or until the Agreement is in place.
Nganhurra Thanardi Garibu Aboriginal Corporation (NTGAC)	In a meeting during August 2023, NTGAC proposed a Framework Agreement. This included terms for ongoing engagement such as frequency of consultation, participation, and content. NTGAC has also requested Woodside provide funding for an in-house environmental scientist to review material. Woodside agreed in principle to this approach, and has requested a first draft of the Framework Agreement for consideration. Woodside have agreed to pay for YMAC's	Woodside has been responding to queries from NTGAC regarding various Environment Plans, who have passed information provided by Woodside onto their Environmental Scientist. Woodside provided a draft Consultation Agreement to NTGAC via YMAC in February 2024. Woodside will follow up with NAC to progress the Agreement.	Woodside will follow up with NTGAC regarding the draft Consultation Agreement monthly for at least six months or until the Agreement is in place.

	in-house scientist to attend NTGAC meetings to advise NTGAC.		
Yinggarda Aboriginal Corporation (YAC)	In August 2023, YAC requested Woodside provide a draft Framework Agreement for their consideration. Woodside has provided a draft Framework Agreement to YAC for review.	Woodside provided a draft Consultation Agreement to YAC in March 2024. YAC have advised that they will seek direction from the YAC Board on the proposal, and seek agreement from the YAC Board regarding the proposed fee schedule. Woodside will follow up with YAC to progress the Agreement.	Woodside will follow up with YAC regarding the draft Consultation Agreement monthly for at least six months or until the Agreement is in place.
Robe River Kuruma Aboriginal Corporation (RRKAC)	RRKAC have noted that they are insufficiently resourced to engage further and respond to Woodside regarding EPs. Woodside assesses that a Framework Agreement could address this.	Woodside has on several occasions written to RRKAC offering to fund consultation meetings. Woodside will offer RRKAC a Framework Agreement which will propose funding, scope of work and timeframes to assist with consultation and ongoing consultation. If RRKAC are open to the proposal, it is intended to put forward a draft Framework Agreement to RRKAC within the next 2 months.	Woodside will follow up with RRKAC monthly for at least six months, seeking to progress a Framework Agreement.
Ngarluma Yindjibarndi Foundation Limited (NYFL)	NYFL and Woodside have an existing Agreement in place which enables quarterly communication about Woodside activities. NYFL has said they are working with other First Nations organisation and representative Bodies developing a Framework Agreement. Woodside issued a	Woodside provided a draft Consultation Agreement to NYFL in March 2024. NYFL responded with a quote for an initial review of the draft terms of agreement.	Woodside will continue to follow up monthly with NYFL for at least six months, seeking to progress the draft Consultation Agreement.
Kariyarra Aboriginal Corporation (KAC)	In September 2023 KAC proposed an agreement which would include meeting arrangements, ongoing consultations, specialist advice and contact protocols.	Woodside support funding request that are reasonable and will seek to reach agreement on a funding proposal put forward by KAC. Woodside agrees that a Framework Agreement is a sound tool to set out ongoing consultation with KAC, funding arrangements and social investment opportunities that KAC would want explored. Woodside provided a draft Consultation Agreement to KAC in February 2024. Woodside will follow up with KAC to progress the Agreement.	Woodside will follow up with KAC regarding the draft Consultation Agreement monthly for at least six months or until the Agreement is in place.

APPENDIX H: OIL SPILL PREPAREDNESS AND RESPONSE MITIGATION ASSESSMENT



Oil Spill Preparedness and Response Mitigation Assessment for Pyrenees Facility Operations Environment Plan

Corporate HSE

Hydrocarbon Spill Preparedness

November 2025

Revision 0b

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Controlled Ref No: PY0005AF1401802615

Revision: 0b

Woodside ID: 1401802615

Page 2 of 206

Uncontrolled when printed. Refer to electronic version for most up to date information.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	9
1 INTRODUCTION	12
1.1 Overview.....	12
1.2 Purpose	12
1.3 Scope	12
1.4 Oil spill response document overview	12
2 RESPONSE PLANNING PROCESS.....	17
2.1 Response planning process outline.....	19
2.1.1 Response Planning Assumptions.....	20
2.2 Environment plan risk assessment (credible spill scenarios)	21
2.2.1 Hydrocarbon characteristics	23
2.3 Hydrocarbon spill modelling	23
2.3.1 Stochastic modelling.....	24
2.3.2 Deterministic modelling	25
2.3.3 Response planning thresholds for surface and shoreline hydrocarbon exposure	26
2.3.4 Spill modelling results.....	30
3 IDENTIFY RESPONSE PROTECTION AREAS.....	35
3.1 Identified sensitive receptor locations.....	36
3.2 Identify Response Protection Areas	36
4 NET ENVIRONMENTAL BENEFIT ANALYSIS (NEBA)	38
4.1 Pre-operational / Strategic NEBA.....	39
4.2 Stage 1: Evaluate data	40
4.2.1 Define the scenario(s)	40
4.3 Stage 2: Predict Outcomes.....	40
4.4 Stage 3: Balance trade-offs	40
4.5 Stage 4: Select Best Response Options	40
4.5.1 Determining potential response options	40
5 HYDROCARBON SPILL ALARP PROCESS	49
5.1 Monitor and evaluate	51
5.1.1 Response need based on predicted consequence parameters	51
5.1.2 Environmental performance based on need.....	52
5.2 Source Control via Vessel SOPEP	54
5.2.1 Environmental performance based on need.....	54
5.3 Source control and well intervention.....	55
5.3.1 Response need based on predicted consequence parameters	55
5.3.2 Environmental performance based on need.....	57
5.4 Subsea Dispersant Injection.....	59
5.4.1 Response need based on predicted consequence parameters	59
5.4.2 Environmental performance based on need.....	61

5.5	Surface Dispersant Application	63
5.5.1	Response need based on predicted consequence parameters	63
5.5.2	Environmental performance based on need.....	65
5.6	Containment and Recovery	67
5.6.1	Response need based on predicted consequence parameters	67
5.6.2	Environmental performance based on need.....	69
5.7	Shoreline Protection and Deflection	71
5.7.1	Response need based on predicted consequence parameters	71
5.7.2	Environmental performance based on need.....	73
5.8	Shoreline Clean-up	75
5.8.1	Response need based on predicted consequence parameters	75
5.8.2	Environmental performance based on need.....	80
5.9	Oiled wildlife response (including hazing)	82
5.9.1	Response need based on predicted consequence parameters	82
5.9.2	Environmental performance based on need.....	86
5.10	Waste Management	87
5.10.1	Response need based on predicted consequence parameters	87
5.10.2	Environmental performance based on need.....	88
5.11	Operational and Scientific monitoring	90
5.11.1	Summary – operational and scientific monitoring	91
5.11.2	Environmental performance based on need.....	92
5.12	Incident Management System	94
5.12.1	Incident action planning	94
5.12.2	Operational NEBA process.....	94
5.12.3	Consultation process	94
5.12.4	Environmental performance based on need.....	95
5.13	Measurement criteria for all response techniques	96
6	ALARP EVALUATION	100
6.1	Monitor and evaluate – ALARP Assessment.....	100
6.1.1	Monitor and evaluate – Control Measure Options Analysis.....	100
6.1.2	Selected Control Measures	101
6.2	Source Control via Vessel SOPEP – ALARP Assessment	102
6.2.1	Source Control via Vessel SOPEP – Control Measure Options Analysis.....	102
6.2.2	Selected control measures	102
6.3	Source Control – ALARP Assessment	103
6.3.1	ROV Intervention	103
6.3.2	Debris clearance and/or removal.....	103
6.3.3	Capping stack	104
6.3.4	Relief Well drilling	105
6.3.5	Source Control – Control Measure Options Analysis	111

6.3.6	Activation/Mobilisation – Control Measure Options Analysis.....	112
6.3.7	Deployment Options Analysis.....	113
6.3.8	Selected Control Measures	114
6.4	Subsea Dispersant Injection – ALARP Assessment	116
6.4.1	Subsea Dispersant Injection timing	116
6.4.2	Response Planning: Loss of well containment (CS-01)	116
6.4.3	Subsea Dispersant Injection – Control Measure Options Analysis.....	118
6.4.4	Selected Control Measures	119
6.5	Surface Dispersant Application – ALARP Assessment	120
6.5.1	Existing capability – Surface Dispersant Application	120
6.5.2	Response Planning: Loss of well containment (CS-01) (WCSS)	121
6.5.3	Response Planning: Cargo tank loss of containment (CS-02)	123
6.5.4	Surface Dispersant Application – Control measure options analysis	125
6.5.5	Selected Control Measures	126
6.6	Containment and Recovery – ALARP Assessment.....	127
6.6.1	Existing Capability – Containment and Recovery.....	127
6.6.2	Response Planning: Loss of well containment (CS-01) (WCCS)	127
6.6.3	Response Planning: Cargo tank loss of containment (CS-02)	128
6.6.4	Containment and Recovery – Control Measure Options Analysis.....	130
6.6.5	Selected Control Measures	131
6.7	Shoreline Protection and Deflection – ALARP Assessment.....	132
6.7.1	Existing Capability – Shoreline Protection and Deflection.....	132
6.7.2	Response Planning: Pyrenees Facility Operations activity – Shoreline Protection and Deflection.....	132
6.7.3	Shoreline Protection and Deflection – Control Measure Options Analysis.....	134
6.7.4	Selected Control Measures	135
6.8	Shoreline Clean-up – ALARP Assessment	136
6.8.1	Existing Capability – Shoreline Clean-up	136
6.8.2	Response planning: Pyrenees Facility Operations activity – Shoreline Clean-up	136
6.8.3	Shoreline Clean-up – Control measure options analysis.....	138
6.8.4	Selected Control Measures	139
6.9	Oiled Wildlife Response – ALARP Assessment	140
6.9.1	Existing Capability – Oiled Wildlife Response	140
6.9.2	Oiled Wildlife Response – Control Measure Options Analysis	140
6.9.3	Selected control measures	141
6.10	Waste Management – ALARP Assessment	142
6.10.1	Existing Capability – Waste Management	142
6.10.2	Waste Management – Control Measure Options Analysis	142
6.10.3	Selected control measures	143
6.11	Operational and Scientific Monitoring – ALARP Assessment	144

6.11.1	Existing Capability – Operational and Scientific Monitoring.....	144
6.11.2	Operational and Scientific Monitoring – Control Measure Options Analysis.....	144
6.11.3	Selected Control Measures	146
6.11.4	ALARP and Acceptability Summary	147
7	ENVIRONMENTAL RISK ASSESSMENT OF SELECTED RESPONSE TECHNIQUES	148
7.1	Identification of impacts and risks from implementing response techniques	148
7.2	Analysis of impacts and risks from implementing response techniques.....	148
7.3	Evaluation of impacts and risks from implementing response techniques	149
7.4	Treatment of impacts and risks from implementing response techniques.....	152
8	ALARP CONCLUSION	153
9	ACCEPTABILITY CONCLUSION	154
10	GLOSSARY AND ABBREVIATIONS	155
10.1	Glossary	155
	Abbreviations	157
11	REFERENCES	160
	ANNEX A: NET ENVIRONMENTAL BENEFIT ANALYSIS DETAILED OUTCOMES ...	163
	ANNEX B: MONITOR AND EVALUATE ACTIVATION AND TERMINATION CRITERIA	168
	ANNEX C: PYRENEES FACILITY OPERATIONS OSM ACTIVITY SPECIFIC ASSESSMENT	171
C.1	Determine if the activity OSM Planning Area fits within the Combined OSM Planning Area 171	
C.2	Determine activity-specific monitoring priorities	172
C.3	Mobilisation and timing of OMP and SMP implementation.....	184
C.4	Determine the OSM resourcing requirements and assess capability for the activity.....	187
	ANNEX D: RESOURCING REQUIREMENTS FOR OMP: SHORELINE CLEAN-UP ASSESSMENT	198
	ANNEX E: TACTICAL RESPONSE PLANS.....	200
	ANNEX F: DISPERSANT MODELLING RESULTS.....	202

FIGURES

Figure 1-1: Woodside hydrocarbon spill document structure	13
Figure 2-1: Response planning and selection process	19
Figure 2-2: Response planning assumption – timing, resourcing and effectiveness	20
Figure 2-3: Location of CS-01, CS-02 and CS-03	22
Figure 2-4: Proportion of total area coverage (AMSA, 2014).....	28
Figure 2-5: Oil thickness versus potential response options (from Allen and Dale 1996).....	29
Figure 2-6: CS-01 – Day 1-5 – Surface oil concentration	34
Figure 2-7: CS-02– Day 1-5 – Surface oil viscosity and concentration.....	34
Figure 3-1: Identify Response Protection Areas (RPAs) flowchart	35
Figure 4-1: Net Environmental Benefit Analysis (NEBA) flowchart.....	39
Figure 5-1: Example screenshot of the CEM competency dashboard.....	97
Figure 5-2: Example screenshot for the SCAT role	98
Figure 6-1: Pyrenees Operations process for sourcing relief well MODU.....	105
Figure 6-2: Source control and well intervention response strategy deployment timeframes for Pyrenees Stickle-4H1 well.	107
Figure 6-3: Timeline showing Safety Case revision timings alongside other relief well preparation activity timings for Pyrenees Wells	109

TABLES

Table 0-1: Summary of the key details for assessment	9
Table 1-1: Hydrocarbon Spill preparedness and response – document references	14
Table 2-1: Petroleum Activities Program credible spill scenarios	21
Table 2-2: Summary of thresholds applied to the stochastic hydrocarbon spill modelling to determine the EMBA and environmental impacts.....	24
Table 2-3: Example Deterministic modelling data.....	25
Table 2-4: Surface hydrocarbon thresholds for response planning	26
Table 2-5: Surface hydrocarbon viscosity thresholds	30
Table 2-6: Worst case credible scenario modelling results.....	31
Table 3-1: Response Protection Areas (RPAs) from deterministic modelling (CS-01 and CS-02) and stochastic modelling (CS-03)	37
Table 4-1: Response technique evaluation – loss of well containment (CS-01).....	42
Table 4-2: Response technique evaluation – cargo tank loss of containment.....	45
Table 4-3: Response technique evaluation – vessel collision (CS-03)	47
Table 5-1: Environmental Performance – Monitor and evaluate.....	52
Table 5-2: Response Planning Assumptions – Source Control	56
Table 5-3: Environmental Performance – Source Control	57
Table 5-4: Response Planning Assumptions – Subsea Dispersant Injection	60
Table 5-5: Environmental Performance – Subsea Dispersant Injection	61
Table 5-6: Response Planning Assumptions – Surface Dispersant Application	64
Table 5-7: Environmental Performance – Surface Dispersant Application	65
Table 5-8: Response Planning Assumptions – Containment and Recovery	68
Table 5-9: Environmental Performance – Containment and Recovery.....	69
Table 5-10: Response Planning Assumptions – Shoreline Protection and Deflection.....	72
Table 5-11: Environmental Performance – Shoreline protection and deflection	73
Table 5-12: Response Planning Assumptions – Shoreline Clean-up	76
Table 5-13: Shoreline Clean-up techniques and recommendations	77
Table 5-14: Environmental Performance – Shoreline Clean-up	80
Table 5-15: Key at-risk species potentially in Priority Protection Areas and open ocean (based on deterministic modelling for CS-01 and CS-02 and stochastic modelling for CS-03)	84
Table 5-16: WAOWRP Guide for rating wildlife impact of an oil spill (DBCA, 2022).....	85
Table 5-17: Environmental Performance – Oiled Wildlife Response	86

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Table 5-18: Response Planning Assumptions – Waste Management.....	87
Table 5-19: Environmental Performance – Waste Management	88
Table 5-20: Joint industry OSM plans relevant to Pyrenees Facility Operations Petroleum Activities Program	91
Table 5-21: Operational and scientific monitoring.....	92
Table 5-22: Environmental Performance – Incident Management System.....	95
Table 6-1: ROV timings.....	103
Table 6-2: Capping stack mobilisation timings.....	104
Table 6-3: Relief well drilling timings (aligned to the Woodside Worst Case Discharge Modelling Procedure)	106
Table 6-4: Safety Case revision conditions and assumptions	110
Table 6-5: Response Planning – Subsea Dispersant Injection.....	116
Table 6-6: Existing Capability – Surface Dispersant Application	120
Table 6-7: Loss of Well Containment (CS-01) – Release volumes.....	121
Table 6-8: Loss of Well Containment (CS-01) – Treatable hydrocarbons	121
Table 6-9: Loss of Well Containment (CS-01) – response planning need	122
Table 6-10: Cargo tank loss of containment (CS-02) – Release volumes	123
Table 6-11: Cargo tank loss of containment (CS-02) – Treatable hydrocarbons to establish response planning need.....	123
Table 6-12: Cargo tank loss of containment (CS-02) – response planning need	124
Table 6-13: Existing Capability – Containment and Recovery	127
Table 6-14: Loss of well containment – Release volumes	127
Table 6-15: Loss of well containment – Treatable hydrocarbons	127
Table 6-16: Loss of Well Containment (CS-01) – response planning need	128
Table 6-17: Cargo tank loss of containment – Release volumes.....	128
Table 6-18: Cargo tank loss of containment – Treatable hydrocarbons to establish response planning need	129
Table 6-19: Cargo tank loss of containment (CS-02) – response planning need	129
Table 6-20: Response Planning – Shoreline Protection and Deflection (CS-01).....	132
Table 6-21: Response Planning – Shoreline Protection and Deflection (CS-02).....	133
Table 6-22: Response Planning – Shoreline Protection and Deflection (CS-03).....	133
Table 6-23: Response Planning – Shoreline Clean-up (CS-01)	136
Table 6-24: Response Planning – Shoreline Clean-up (CS-02)	137
Table 6-25: Response Planning – Shoreline Clean-up (CS-03)	137
Table 7-1: Analysis of risks and impacts.....	149

EXECUTIVE SUMMARY

Woodside Energy (Australia) Pty Ltd (Woodside) has developed its oil spill preparedness and response position for the Pyrenees Facility Operations, hereafter known as the Petroleum Activities Program.

This document demonstrates that the risks and impacts from an unplanned hydrocarbon release, and the associated response operations, are controlled to As Low as Reasonably Practicable (ALARP) and an acceptable level. It achieves this by evaluating response options to address the potential environmental impacts resulting from an unplanned loss of hydrocarbon containment associated with the PAP detailed in the Environment Plan (EP). This document then details Woodside's decisions and techniques for responding to a hydrocarbon release event and the process for determining its level of hydrocarbon spill preparedness.

A summary of the key facts and references to additional detail within this document are presented below.

Table 0-1: Summary of the key details for assessment

Key details of assessment	Summary	Reference to additional detail
Worst Case Credible Scenarios	Credible Scenario-01 (CS-01): An uncontrolled subsea LOWC event discharging crude oil at the Stickle-4H1 well site. 21° 31' 23.679" S 114° 06' 35.289" E 29,618 m ³ release of Pyrenees Crude ¹ over 69 days. 54.4% residual component or 16,112 m ³ .	Section 2.2
	Credible Scenario-02 (CS-02): A short-term surface release from a cargo tank caused by a vessel collision with the FPSO. 21° 32' 28.1" S 114° 06' 58.6" E Instantaneous release of 14,600 m ³ of Pyrenees Crude. 54.4% residual component or 7942.4 m ³ .	
	Credible Scenario-03 (CS-03): Diesel spill from ruptured fuel tank due to vessel collision close to Crosby-3H1 well. 21° 32' 43.063" S 114° 05' 42.504" E Instantaneous release of 330 m ³ of Marine Diesel Oil (MDO). 5% residual component or 16.5 m ³ .	
Hydrocarbon Properties	Pyrenees Crude Pyrenees Crude is a mixture of volatile and persistent hydrocarbons with high proportions of low volatility and residual compounds. In general, about 0.6% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 8.5% should evaporate within the first 24 hours (180 °C < BP < 265 °C); and a further 36.13% should evaporate over several days (265 °C < BP < 380 °C). Approximately 54.4% of the oil is shown to be persistent. The aromatic content of the oil is approximately 14.1%. Marine Diesel Oil (MDO) Marine Diesel (IKU) was selected from SINTEF's oil library to represent MDO. MDO is a moderate weight, moderately persistent oil in the marine environment. Under low winds (1 m/s), 60% of the surface slick is predicted to remain after 120 hours (5 days). Under moderate winds (5 m/s), 40% of the initial surface slick is predicted to remain after 24 hours, decreasing further to ~10% after 48 hours and ~1% after 72 hours. With high winds (10 m/s), the surface slick is predicted to be almost entirely evaporated (~25%) and dispersed (~75%) after 12 hours. Marine Diesel (IKU) has a very low tendency for emulsion formation, with only ~1% water content entrained into the surface slick after 120 hours for all wind conditions	Section 6.8.2 of the EP Appendix A of the First Strike Plan

¹ Characteristics of all hydrocarbons returned to the Pyrenees FPSO (Ravensworth, Crosby and Stickle crude) are very similar and therefore considered to have the same characteristics (including weathering) and, hereafter, are referred to as 'Pyrenees Crude'. Martin Linge Crude has been modelled as an appropriate analogue.

	assessed.			
Modelling Results	Stochastic modelling Quantitative, stochastic assessments have been undertaken for credible spill scenarios CS-01, CS-02 and CS-03 to help assess the environmental risk of a hydrocarbon spill. A total of 100 replicate simulations was completed for CS-01,200 for CS-02 and 150 for CS-03, to test for trends and variations in the trajectory and weathering of the spilled oil, with an even number of replicates completed using samples of metocean data that commenced within each calendar quarter.			Section 2.3.4
	Deterministic modelling Deterministic modelling was then undertaken for CS-01 and CS-02 as the worst-case credible scenarios (WCCS) to establish the following for response planning purposes: • Minimum time to floating oil contact with offshore edge(s) of any shoreline receptor polygon (at a threshold of 10 g/m²). • Minimum time to commencement of oil accumulation at any shoreline receptor (at a threshold of 100 g/m²). • Maximum cumulative oil volume accumulated across all shoreline receptors (at concentrations in excess of 100 g/m²). • Maximum cumulative oil volume accumulated at any individual shoreline receptor (at concentrations in excess of 100 g/m²). • Minimum time for contact by entrained and dissolved oil (at a threshold of 10 ppb) with the offshore edge(s) of any shoreline receptor.			
		CS-01: LOWC event discharging 29,618 m³ Pyrenees crude oil at the Stickle-4H1 well site	CS-02: Cargo tank release of 14,600 m³ caused by a vessel collision with the FPSO	CS-03: Release of 330 m³ MDO due to vessel collision close to Crosby-3H1 well
	Minimum time to floating oil contact with offshore edge(s) of any shoreline receptor polygon (at a threshold of 10 g/m ²).	4.1 days at Exmouth, Ningaloo Coast WH and State MP (deterministic run: Q3, Run 4)	0.2 days at Exmouth, Ningaloo Coast WH and State MP (deterministic run: Q2, Run 2)	0.2 days at Exmouth, Ningaloo Coast WH and State MP and Gascoyne MP
	Minimum time to commencement of oil accumulation at any shoreline receptor (at a threshold of 100 g/m ²).	2.9 days at Exmouth, Ningaloo Coast WH and State MP (1,701 m ³) (deterministic run: Q1, Run 22)	1.5 days at Exmouth, Ningaloo Coast WH and State MP (2029 m ³) (deterministic run: Q1, Run 47)	0.7 days at Exmouth, Ningaloo Coast WH and State MP (202.1 tonnes)
Maximum cumulative oil volume accumulated across all shoreline receptors (at concentrations in excess of 100 g/m ²).	3432 m ³ at Exmouth, Ningaloo Coast WH and State MP (31.8 days) (deterministic run: Q4, Run 22)	7212 m ³ across all shorelines with 3571 m ³ at Southern Pilbara – Shorelines (17 days) (deterministic run: Q4, Run 2)	202.1 tonnes at Exmouth, Ningaloo Coast WH and State MP (0.7 days)	
Maximum	3606 m ³ at	3571 m ³ at	202.1 tonnes at	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

	cumulative oil volume accumulated at any individual shoreline receptor (at concentrations in excess of 100 g/m ²).	Exmouth, Ningaloo Coast WH and State MP (18.5 days) (deterministic run: Q4, Run 9)	Southern Pilbara – Shorelines (17 days) (deterministic run: Q4, Run 2)	Exmouth, Ningaloo Coast WH and State MP (0.7 days)	
	Minimum time for contact by entrained or dissolved oil (at a threshold of 10 ppb) with the offshore edge(s) of any shoreline receptor.	0.8 days (19 hours) at Gascoyne MP	0.2 days at Exmouth, Ningaloo Coast WH and State MP (deterministic run: Q2, Run 2)	0.2 days at Exmouth, Ningaloo Coast WH and State MP and Gascoyne MP	
Net Environmental Benefit Analysis	Monitor and evaluate, source control (via vessel SOPEP), source control via capping stack and relief well, subsea dispersant injection, surface dispersant application, containment and recovery, protection and deflection, shoreline clean-up and oiled wildlife response, are all identified as potentially having a net environmental benefit (dependent on the actual spill scenario) and carried forward for further assessment.				Section 4
ALARP evaluation of selected response techniques	The evaluation of the selected response techniques shows the proposed controls reduced the risk to an ALARP and an acceptable level for the risk presented in Section 2, without the implementation of considered additional, alternative or improved control measures.				Section 6

1 INTRODUCTION

1.1 Overview

Woodside Energy (Australia) Pty Ltd (Woodside) has developed its oil spill preparedness and response position for the Pyrenees Facility Operations activity, hereafter known as the Petroleum Activities Program (PAP). This document details Woodside's decisions and techniques for responding to a hydrocarbon loss of containment event and the process for determining its level of hydrocarbon spill preparedness.

1.2 Purpose

This document, together with the documents listed below, meet the requirements of the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth) (Environment Regulations) relating to hydrocarbon spill response arrangements.

- The Pyrenees Facility Operations Environment Plan (EP)
- Hydrocarbon Spill Australia Regulatory Framework
- The Pyrenees Facility Operations Oil Pollution Emergency Plan (OPEP) including:
 - First Strike Plan (FSP)
 - Operational and Scientific Monitoring Bridging Implementation Plan (OSM BIP)
 - Relevant Operations Plans
 - Relevant Tactical Response Plans (TRPs)
 - Relevant Supporting Plans
 - Data Directory.

1.3 Scope

This document demonstrates that the risks and impacts from an unplanned hydrocarbon release, and the associated response operations, are controlled to As Low as Reasonably Practicable (ALARP) and an acceptable level. It achieves this by evaluating response options to address the potential environmental risks and impacts resulting from an unplanned loss of hydrocarbon containment associated with the PAP detailed in the EP. This document then outlines Woodside's decisions and techniques for responding to a hydrocarbon release event and the process for determining its level of hydrocarbon spill preparedness. It should be read in conjunction with the documents listed in Table 1-1. The location of the PAP is shown in Figure 3-3 of the EP.

1.4 Oil spill response document overview

The documents outlined in Table 1-1 and Figure 1-1 are collectively used to manage the preparedness and response for a hydrocarbon release.

The Oil Pollution First Strike Plan (FSP) and ANNEX A: Net Environmental Benefit Analysis detailed outcomes contains a pre-operational Net Environmental Benefit Analysis (NEBA) summary, detailing the selected response techniques for this PAP. Relevant Operational Plans to be initiated for associated response techniques are identified in the FSP and relevant forms to initiate a response are appended to the FSP.

The process to develop an Incident Action Plan (IAP) begins once the Oil Pollution FSP is underway. The IAP includes inputs from monitor and evaluate activities, operational monitoring and the operational NEBA (Section 4). Planning, coordination and resource management are initiated by the Corporate Incident Management Team (CIMT). In some instances, technical specialists may be utilised to provide expert advice. The planning may also involve liaison officers from supporting government agencies.

During each operational period, field reports are continually reviewed to evaluate the effectiveness of response operations. In addition, the operational NEBA is continually reviewed and updated to confirm the response techniques implemented continue to result in a net environmental benefit (Section 4).

The response will continue as described in Section 5 until the response termination criteria have been met.

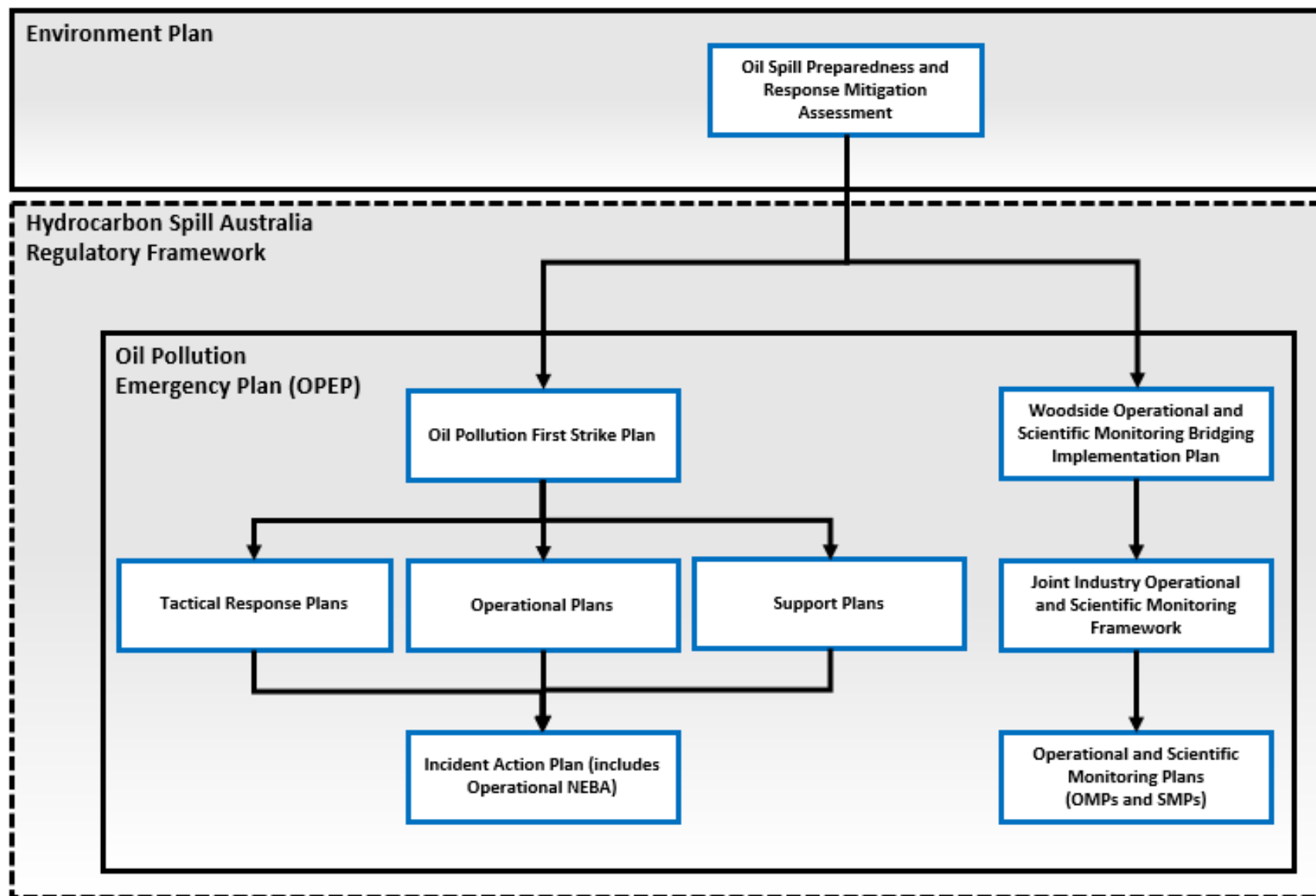


Figure 1-1: Woodside hydrocarbon spill document structure

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Table 1-1: Hydrocarbon Spill preparedness and response – document references

Document	Document overview	Stakeholders	Relevant information	Document subsections (if applicable)
Pyrenees Facility Operations Environment Plan (EP)	Demonstrates that potential adverse impacts on the environment associated with the Pyrenees Facility Operations (during both routine and non-routine operations) are mitigated and managed to As Low As Reasonably Practicable (ALARP) and will be of an acceptable level.	NOPSEMA Woodside internal	EP Section 6 (Identification and evaluation of environmental risks and impacts, including credible spill scenarios) EP Section 6 (Performance outcomes, standards and measurement criteria) EP Section 7 (Implementation strategy – including emergency preparedness and response, and Reporting and compliance)	
Hydrocarbon Spill Australia Regulatory Framework	Describes the arrangements and processes adopted by Woodside when responding to a hydrocarbon spill from a petroleum activity.	Regulatory agencies Woodside internal	All	
Oil Spill Preparedness and Response Mitigation Assessment for the Pyrenees Facility Operations (this document)	Evaluates response options to address the potential environmental impacts resulting from an unplanned loss of hydrocarbon containment associated with the PAP described in the EP.	Regulatory agencies Corporate Incident Management Team (CIMT): Control function in an ongoing spill response for activity-specific response information.	All Performance outcomes, standards and measurement criteria related to hydrocarbon spill preparedness and response are included in this document.	
Pyrenees Facility Operations Oil Pollution First Strike Plan	Facility specific document providing details and tasks required to mobilise a first strike response. Primarily applied to the first 24 hours of a response until a full Incident Action Plan (IAP) specific to the event is developed. Oil Pollution First Strike Plans are intended to be the first document used to provide immediate guidance to the responding Incident Management Team (IMT).	Site-based IMT for initial response, activation and notification. CIMT for initial response, activation and notification. CIMT: Control function in an ongoing spill response for activity-specific response information.	Initial notifications and reporting required within the first 24 hours of a spill event. Relevant spill response options that could be initiated for mobilisation in the event of a spill. Recommended pre-planned tactics. Details and forms for use in immediate response. Activation process for oil spill trajectory modelling, aerial surveillance and oil spill tracking buoy details.	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Document	Document overview	Stakeholders	Relevant information	Document subsections (if applicable)
Operational Plans	Lists the actions required to activate, mobilise and deploy personnel and resources to commence response operations. Includes details on access to equipment and personnel (available immediately) and steps to mobilise additional resources depending on the nature and scale of a release. Relevant operational plans will be initially selected based on the Oil Pollution First Strike Plan; additional operational plans will be activated depending on the nature and scale of the release.	CIMT: Operations and Logistics Sections for first strike activities. CIMT: Planning Section to help inform the IAP on resources available.	Locations from where resources may be mobilised. How resources will be mobilised. Details of where resources may be mobilised to and what facilities are needed once the resources arrive. Details on how to implement resources to undertake a response.	Operational monitoring Operational Plan Source Control Emergency Response Planning Guideline Vessel Shipboard Oil Pollution Emergency Plan (SOPEP) Subsea dispersant injection Surface Dispersants Containment and Recovery Protection and deflection Shoreline clean-up Oiled wildlife response
Operational and Scientific Monitoring (OSM) Bridging Implementation Plan	Describes a program of monitoring oil pollution that will be adopted in the event of a hydrocarbon spill incident (Level 2–3) to marine waters. It is aligned to the Joint Industry Operational and Scientific Monitoring Framework (APPEA, 2021) and describes how this Framework applies to Woodside's activities and spill risks in Australian waters.	Site-based IMT for initial activation and notification. OSM Service Providers Regulatory agencies	Mobilisation and notification process for OSM, including activation of OSM Service Providers Information on initial scientific monitoring priorities OSM arrangements and capability Permitting and access requirements for OSM	

Document	Document overview	Stakeholders	Relevant information	Document subsections (if applicable)
Tactical Response Plans	Provides options for response techniques in selected RPAs. Provides site, access and deployment information to support a response at the location.	CIMT: Planning Section to help develop IAPs, and Logistics Function to assist with determining resources required.	Indicative response techniques. Access requirements and/or permissions. Relevant information for undertaking a response at that site. Where applicable, may include equipment deployment locations and site layouts.	For full list of relevant Tactical Plans for the Pyrenees Facility Operations oil spill response, refer to ANNEX E: Tactical Response Plans.
Support Plans	Support Plans detail Woodside's approach to resourcing and the provision of services during a hydrocarbon spill response.	CIMT: Operations, Logistics and Planning Sections.	Technique for mobilising and managing additional resources outside of Woodside's immediate preparedness arrangements.	Logistics Support Plan Aviation Support Plan Marine Support Plan Waste Management Plan – Australia Health and Safety Support Plan Hydrocarbon Spill Responder Health Monitoring Guidelines People and Global Capability (Surge Labour Requirements) Support Plan Stakeholder Engagement Support Plan Guidance for Hydrocarbon Spill Claims Management

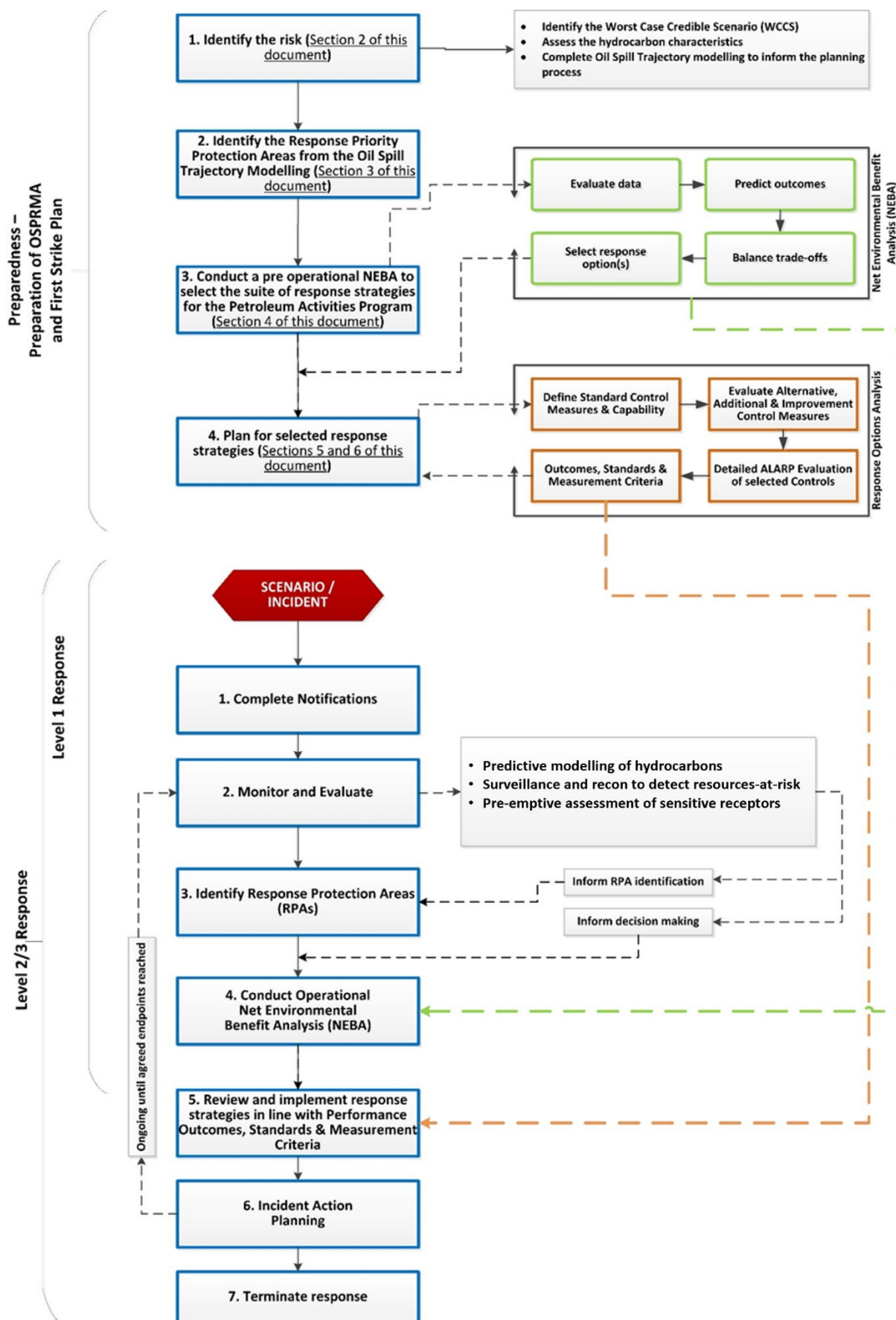
This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

2 RESPONSE PLANNING PROCESS

This document details Woodside's process for identifying potential response options for the hydrocarbon release scenarios, identified in the EP. Figure 2-1 details the interaction between Woodside's response, planning, preparedness and selection process.

This structure has been used because it shows how the planning and preparedness activities inform a response and provides indicative guidance on what activities would be undertaken, in sequential order, if a real event were to occur. The process also evaluates alternative, additional and/or improved control measures specific to the PAP.

The Pyrenees Facility Operations First Strike Plan then summarises the outcome of the response planning process and provides initial response guidance and a summary of ongoing response activities if an incident were to occur.



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Figure 2-1: Response planning and selection process**2.1 Response planning process outline**

This document is expanded below to provide additional context on the key steps in determining capability, evaluating ALARP and hydrocarbon spill response requirements.

Section 1.	INTRODUCTION
Section 2.	RESPONSE PLANNING PROCESS • identification of worst-case credible scenario(s) (WCCS) • spill modelling for WCCS.
Section 3.	IDENTIFY RESPONSE PROTECTION AREAS (RPAs) • areas predicted to be contacted at concentration >100 g/m².
Section 4.	NET ENVIRONMENTAL BENEFIT ANALYSIS (NEBA) • pre-operational NEBA (during planning/ALARP evaluation): this must be reviewed during the initial response to an incident to confirm its accuracy • selected response techniques prioritised and carried forward for ALARP assessment.
Section 5.	HYDROCARBON SPILL ALARP PROCESS • determines the response need based on predicted consequence parameters • details the environmental performance of the selected response options based on need • sets the environmental performance outcomes, environmental performance standards and measurement criteria.
Section 6.	ALARP EVALUATION • evaluates alternative, additional, and improved options for each response technique to demonstrate the risk has been reduced to ALARP • provides a detailed ALARP assessment of selected control measure options against: – predicted cost associated with implementing the option. – predicted change to environmental benefit. – predicted effectiveness / feasibility of the control measure.
Section 7.	ENVIRONMENTAL RISK ASSESSMENT OF SELECTED RESPONSE TECHNIQUES • evaluation of impacts and risks from implementing selected response options.
Section 8.	ALARP CONCLUSION
Section 9.	ACCEPTABILITY CONCLUSION

2.1.1 Response Planning Assumptions

Figure 2-2 illustrates the initial steps of a response to an oil spill event and, where available, the indicative timing. For the latter stages, the timing will be specific to the selective response option.

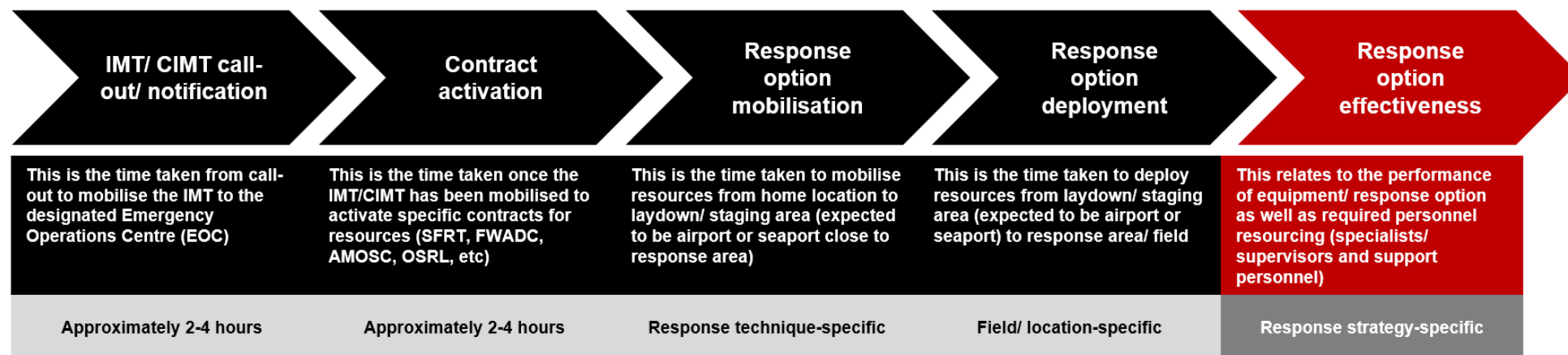


Figure 2-2: Response planning assumption – timing, resourcing and effectiveness

2.2 Environment plan risk assessment (credible spill scenarios)

Potential hydrocarbon release scenarios from the PAP have been identified during the risk assessment process (Section 6 of the EP). Further descriptions of risk, impacts and mitigation measures (which are not related to hydrocarbon preparedness and response) are provided in Section 6 of the EP. Four unplanned events or credible spill scenarios for the PAP have been selected as representative across types, sources and incident/response levels, up to and including the WCCS.

Table 2-1 presents the credible scenarios for the PAP. The WCCS for the activity is then used for response planning purposes, as all other scenarios are of a lesser scale and extent. By demonstrating capability to manage the response to the WCCS, Woodside assumes other scenarios that are smaller in nature and scale can also be managed by the same capability. Response performance measures have been defined based on a response to the WCCS.

The subsea release scenario (CS-01) and surface cargo tank release (CS-02) have been modelled and are considered to determine the WCCSs for response planning purposes. They have been used to inform the offshore and shoreline response.

Other credible scenarios have smaller volumes of hydrocarbons and so are considered to be within the risk profile and spill response capability requirements of the WCCS.

The selection of WCCS for OSM planning purposes is discussed in ANNEX C: Pyrenees Facility Operations OSM Activity Specific Assessment.

Table 2-1: Petroleum Activities Program credible spill scenarios

Credible Spill Scenarios	Scenario selected for planning purposes	Scenario description	Maximum credible volume released (liquid m ³)	Incident level	Hydrocarbon type	Residual proportion	Residual volume (m ³)
CS-01	Yes	An uncontrolled subsea LOWC event discharging crude oil at the Stickle-4H1 well site	29,618 m ³	3	Pyrenees Crude ²	54.5%	16,112 m ³
CS-02	Yes	Surface release from a cargo tank caused by a vessel collision with the FPSO	14,600 m ³	3	Pyrenees Crude	54.5%	7942.4 m ³
CS-03	Yes	Surface release from ruptured fuel tank due to vessel collision close to Crosby-3H1 well	330 m ³	2	MDO	5.0%	16.5 m ³

² Characteristics of all hydrocarbons returned to the Pyrenees FPSO (Ravensworth, Crosby and Stickle crude) are very similar and therefore considered to have the same characteristics (including weathering) and, hereafter, are referred to as 'Pyrenees Crude'. Martin Linge Crude has been modelled as an appropriate analogue.

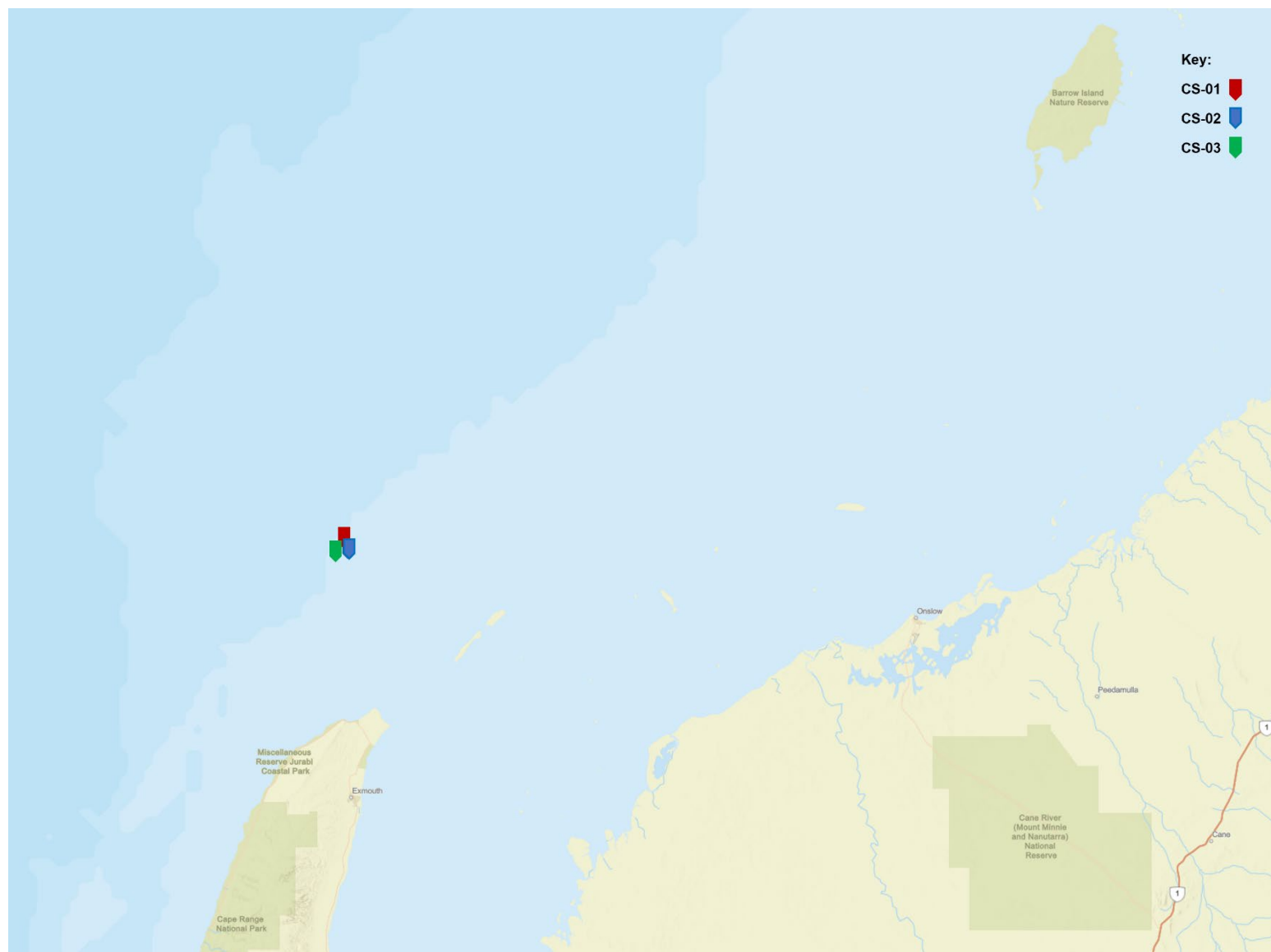


Figure 2-3: Location of CS-01, CS-02 and CS-03

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Controlled Ref No: PY0005AF1401802615

Revision: 0b

Woodside ID: 1401802615

Page 22 of 206

Uncontrolled when printed. Refer to electronic version for most up to date information.

2.2.1 Hydrocarbon characteristics

Hydrocarbon characteristics, including modelled weathering data and ecotoxicity, are included in Section 6 of the EP.

Pyrenees Crude³ (CS-01 and CS-02)

Pyrenees Crude contains a relatively high proportion (~54.4% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. These compounds are expected to persist in the marine environment. In general, about 0.6% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 8.5% should evaporate within the first 24 hours (180 °C < BP < 265 °C); and a further 36.13% should evaporate over several days (265 °C < BP < 380 °C).

The aromatic content of the oil is approximately 3%. If released in the marine environment and in contact with the atmosphere (i.e., surface spill), approximately 9.1% by mass of this oil is predicted to evaporate over the first couple of days depending upon the prevailing conditions, with further evaporation slowing over time. The heavier (low volatility) components of the oil tend to entrain into the upper water column due to wind-generated waves but can subsequently resurface if wind waves abate. Therefore, the heavier components of this oil can remain entrained or on the sea surface for an extended period, with associated potential for dissolution of the soluble aromatic fraction. Further, the Pyrenees Crude contains 54.4% of heavy hydrocarbons (persistent compounds) that are likely to remain on the sea surface for longer periods.

Marine Diesel (CS-03)

Marine Diesel Oil (MDO) is typically classed as an International Tanker Owners Pollution Federation (ITOPF) Group I/II oil. Group I oils are non-persistent and tend to dissipate completely through evaporation within a few hours and do not normally form emulsions.

Marine Diesel (IKU) was selected from SINTEF's oil library to represent MDO. MDO is a moderate weight, moderately persistent oil in the marine environment. Under low winds (1 m/s), 60% of the surface slick is predicted to remain after 120 hours (5 days). Under moderate winds (5 m/s), 40% of the initial surface slick is predicted to remain after 24 hours, decreasing further to ~10% after 48 hours and ~1% after 72 hours. With high winds (10 m/s), the surface slick is predicted to be almost entirely evaporated (~25%) and dispersed (~75%) after 12 hours.

2.3 Hydrocarbon spill modelling

Oil spill trajectory modelling (OSTM) tools are used for environmental impact assessment and during response planning to understand spatial scale and timeframes for response operations. Woodside recognises there is a degree of uncertainty related to the use of modelling data and has subsequently utilised conservative approaches to volumes, weathering, spatial areas, timing and response effectiveness to scale capability to need.

CS-01 and CS-02

Oil spill modelling for CS-01 and CS-02 was carried out using the Oil Spill Model and Response System (OILMAP) and Integrated Oil Spill Impact Model System (SIMAP) models, both of which can be used for stochastic and deterministic trajectory modelling. They have been developed over three decades of planning, exercises, actual responses, several peer reviews, and validation studies. OILMAP was originally derived from the United States Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Type A model (French et al. 1996), for assessing marine transport, biological impact and economic damage that was also used under the United States Oil Pollution Act 1990 Natural Resource Damage Assessment (NRDA) regulations. Notable spills where the model has been used and validated against actual field observations include, Exxon Valdez (French McCay 2004), North Cape Oil Spill (French McCay 2003), along with an assessment of 20 other spills (French McCay and Rowe, 2004). In addition, test spills designed to verify fate, weathering and movement algorithms have been conducted regularly and in a range of climate conditions (French and Rines 1997; French et al. 1997; Payne et al. 2007; French McCay et al. 2007).

³ Characteristics of all hydrocarbons returned to the Pyrenees FPSO (Ravensworth, Crosby and Stickle crude) are very similar and therefore considered to have the same characteristics (including weathering) and, hereafter, are referred to as 'Pyrenees Crude'. Martin Linge Crude has been modelled as an appropriate analogue.

Further to this, the algorithms have been updated using the latest findings from the Macondo/Deepwater Horizon well blowout in the Gulf of Mexico and validated according to the Deepwater Horizon (DWH) oil spill in support of the NRDA (Spaulding et al. 2015; French McCay et al. 2015, 2016). Finally, the OILMAP and SIMAP models have been used extensively in Australia to prosecute pollution offences, predict discharge locations and likely spill volumes based on weathering and surveillance observations, and has been used as expert witness evidence in Australian court proceedings, aiding the prosecution to determine spill quantum estimates.

CS-03

Oil spill modelling for CS-03 was carried out with SINTEF's Oil Spill Contingency and Response (OSCAR) system (version 11.0.1). OSCAR is a system of integrated models that quantitatively assess the fate and transport of hydrocarbons in the marine environment, as well as evaluate the efficacy of response measures (Reed et al., 2001; Reed et al., 2004).

OSCAR provides an integrated hydrocarbon transport and weathering model that accounts for hydrocarbon advection, dispersion, surface spreading, entrainment, dissolution, biodegradation, emulsification, volatilisation and shoreline interaction.

The weathering model (Daling et al., 1997) is supported by an extensive oil library that contains detailed, laboratory-derived data for a wide range of hydrocarbons subjected to a wide range of environmental conditions.

OSCAR enables simulation of a hydrocarbon release scenario in deterministic mode (i.e. a scenario is simulated with one start date with spatial results available at fixed time intervals over the duration of the simulation) or stochastic mode (i.e. a scenario is simulated a number of times with varying start dates, and the results are outputted spatially in a probabilistic manner).

OSCAR also includes functionality for simulating the effectiveness of response measures including surface and subsea dispersant application, and offshore containment and recovery.

2.3.1 Stochastic modelling

Quantitative, stochastic assessments have been undertaken for the credible spill scenarios (refer to Table 2-1) to help assess the environmental consequences of a hydrocarbon spill.

A total of 100-200 replicate simulations were completed for the scenarios to test for trends and variations in the trajectory and weathering of the spilled oil, with an even number of replicates completed using samples of metocean data that commenced within each calendar quarter. Further details relating to the assessments for the scenarios can be found in Section 6 of the EP.

2.3.1.1 Environmental impact thresholds – Environment that May Be Affected (EMBA) and hydrocarbon exposure

The outputs of the stochastic spill modelling are used to assess the potential environmental impact from the credible scenarios. The stochastic modelling results are used to delineate areas of the marine and shoreline environment that could be exposed to hydrocarbon levels exceeding environmental impact threshold concentrations. The summary of all the locations where hydrocarbon thresholds could be exceeded by any of the simulations modelled is defined as the EMBA and is discussed further in Section 6 of the EP. As the weathering of different fates of hydrocarbons (surface, entrained and dissolved) differs due to the influence of the metocean mechanism of transportation, a different EMBA is presented for each fate within the EP.

A conservative approach – adopting accepted accumulation thresholds for impacts on the marine environment – is used to define the EMBA. These hydrocarbon thresholds are presented in Table 2-2 below and described in Section 6 of the EP.

Table 2-2: Summary of thresholds applied to the stochastic hydrocarbon spill modelling to determine the EMBA and environmental impacts

Hydrocarbon	Surface hydrocarbon (g/m ²)	Dissolved hydrocarbon (ppb)	Entrained hydrocarbon (ppb)	Accumulated hydrocarbon (g/m ²)
Crude	10	50	100	100
Diesel	10	50	100	100

2.3.2 Deterministic modelling

Woodside undertakes deterministic modelling where initial stochastic modelling has indicated that floating oil is present at an impact threshold of $>50 \text{ g/m}^2$ and/or where there are shoreline accumulations at an impact threshold of $>100 \text{ g/m}^2$. The deterministic modelling outputs are then used to evaluate risks and impacts and scale the required capability for the offshore (containment and recovery and dispersant) and/or shoreline responses.

Deterministic results are provided in both shapefile and data table format with each row of the data table representing a 1 km^2 cell. This cell size has been used as it represents the approximate area that a single containment and recovery operation or surface dispersant operation (single sortie or vessel spraying) can effectively treat in one ten-hour day. Smaller cell sizes have been considered but would not change the response need as the potential distance between cells would not allow multiple cells to be treated per day by response operations. Additionally, a 1 km^2 cell is expected to allow averaging of threshold concentrations and mass across the spatial extent to represent a conservative approach (patches of oil and windrows) to response planning that simulates feedback from monitor and evaluate activities in a real event.

Deterministic modelling was carried out on CS-01 and CS-02 as the WCCs and used for response planning purposes. A sample of the deterministic results is provided below as an indication of the data format and content.

- Column A and B provide the latitude and longitude of the cell
- Column C is the elapsed time since the release occurred
- Column D represents the average concentration across the cell in g/m^2
- Column E represents the viscosity of the hydrocarbon in centistokes (cSt) at sea surface temperature
- Column F and G represents the mass of hydrocarbon across the entire cell in kg and m^3 respectively.

Table 2-3: Example Deterministic modelling data

Latitude	Longitude	Time_hour	Conc_gm ²	Visc_cSt	Mass_kg	Mass_m ³
A	B	C	D	E	F	G
-21.522951	114.107516	6	0	0	2646.010816	2.646011
-21.522951	114.116544	6	0	0	9957.003891	9.957004
-21.522951	114.125571	6	0	0	12168.451935	12.16845
-21.522951	114.134598	6	0	0	8751.614764	8.751615
-21.513922	114.134598	6	0	0	1939.952567	1.939953
-21.522951	114.143625	6	0	0	6747.892305	6.747892
-21.513922	114.143625	6	0	0	5579.969317	5.579969

The deterministic modelling data provides an indication of the response need by displaying the potential surface area and volume treated or recovered by response operations. Existing capability is reviewed to approximate the surface area and volumes that can be treated or removed and a range of alternate, improved and additional options to reduce risks and impacts to ALARP are considered.

A key consideration in the evaluation of response capability is the understanding that no single response strategy or even combination of offshore response strategies will treat or remove 100% of the surface hydrocarbons in either surface area or volume. Even with the significant resources available to Woodside through existing capability and third-party resources, the primary offshore response strategies of surface dispersant application and containment and recovery will only treat or recover a minor volume ($<30\%$) of the available surface hydrocarbons based on previous response experience.

Woodside is committed to a realistic, scalable response capability this is commensurate to the level of risk and able to be practically implemented and sustained within the logistical constraints of remote areas.

2.3.3 Response planning thresholds for surface and shoreline hydrocarbon exposure

Thresholds to determine the EMBA are used to predict and assess environmental impacts and inform operational and scientific monitoring (OSM), however they do not appropriately represent the thresholds at which an effective response can be implemented. Additional response thresholds are used for response planning and to determine areas where response techniques would be most effective. The modelling is then used to assess the nature and scale of a response.

In the event of an actual response, modelling would be reviewed for suitability and additional modelling would be conducted using real-time data and field information to inform CIMT decisions.

The modelling outputs are presented at response planning thresholds for surface hydrocarbons for the WCCS. Surface spill concentrations are expressed as grams per square metre (g/m²). The thresholds used are derived from oil spill response planning literature and industry guidance and are summarised in the following subsections.

2.3.3.1 Surface hydrocarbon concentrations

Table 2-4: Surface hydrocarbon thresholds for response planning

Surface hydrocarbon threshold (g/m ²)	Description	Bonn Agreement Oil Appearance Code	Mass per area (m ³ /km ²)
>10	Predicted minimum threshold for commencing monitor and evaluate activities and operational monitoring ⁴	Code 3 – Dull metallic colours	5 to 50
50	Predicted minimum floating oil threshold for containment and recovery and surface dispersant application ⁵	Code 4 – Discontinuous true oil colour	50 to 200
100	Predicted optimum floating oil threshold for containment and recovery and surface dispersant application	Code 5 – Continuous true oil colour	>200
Shoreline hydrocarbon threshold (g/m ²)	Description	National Plan Guidance on Oil Contaminated Foreshores	Mass per area (m ³ /km ²)
100	Predicted minimum shoreline accumulation threshold for shoreline assessment operations	Stain	>100
250	Predicted minimum threshold for commencing shoreline clean-up operations	Level 3 – Thin Coating	200 to 1000

The surface thickness of oil at which dispersants are typically effective is approximately 100 g/m². However, substantial variations occur in the thickness of the oil within the slick, and most fresh crude oils spread within a few hours, so that overall the average thickness is 0.1 mm or approximately 100 g/m² (ITOPF 2011). Additionally, the recommended rate of application for surface dispersant is typically one part dispersant to 20 or 25 parts of spilled oil. These figures assume a 0.1 mm slick thickness, averaged over the thickest part of the spill, to calculate a litres/hectare application rate from vessels and aircraft. In practice this can be difficult to achieve as it is not possible to accurately assess the thickness of the floating oil.

Some degree of localised over-dosage and under-dosage is inevitable in dispersant response. An average oil layer thickness of 0.1 mm is often assumed, although the actual thickness can vary over a wide range (from less than 0.0001 mm to more than 1 mm) over short distances (International Petroleum Industry Environment Conservation Association [IPIECA] 2015).

⁴ Monitor and evaluate will be undertaken from the outset of a spill whether or not this threshold has been reached. Monitoring is needed throughout the response to assess the nature of the spill, track its location and inform the need for any additional monitoring and/or response techniques. It also informs when the spill has entered State Waters and control of the incident passes to statutory authorities e.g. Western Australia Department of Transport (WA DoT) or AMSA.

⁵ At 50 g/m², containment and recovery and surface dispersant application operations are not expected to be particularly effective. This threshold represents a conservative approach to planning response capability and containing the spread of surface oil.

Guidance from the Australian Maritime Safety Authority (AMSA, 2020) indicates spreading of spills of Group II or III products will rapidly decrease slick thickness over the first 24 hours of a spill resulting in the potential requirement of up to a ten-fold increase in capability on day 2 to achieve the same level of performance.

Further guidance from the European Maritime Safety Authority (EMSA) states spraying the 'metallic' looking area of an oil slick (Bonn Agreement Oil Appearance Code (BAOAC) 3, approx. 5 – 50 µm) with dispersant from spraying gear designed to treat an oil layer 0.1 mm (100 µm) thick, will inevitably cause dispersant over-treatment by a factor of 2 to 20 times (EMSA 2012).

Therefore, dispersant application should be concentrated on the thickest areas of an oil slick and Woodside intends on applying surface dispersants to only BAOAC 4 and 5. Spraying areas of oil designated as BAOAC Code 4 (Discontinuous true oil colour) with dispersant will, on average, deliver approximately the recommended treatment rate of dispersant.

Spraying areas of oil designated as BAOAC Code 5 with dispersant (Continuous true oil colour and more than 0.2 mm thick) will, on average, deliver approximately half the recommended treatment rate of dispersant. Repeated application of these areas of thicker oil, or increased dosage ratios, will be required to achieve the recommended treatment rate of dispersant (EMSA 2012).

Guidance from the National Oceanic and Atmospheric Administration (NOAA) in the United States is found in the document: *Characteristics of Response Strategies: A Guide for Spill Response Planning in Marine Environments 2013* (NOAA 2013). This guide outlines advice for response planning across all common techniques, including surface dispersant spraying and containment and recovery. It states oil thickness can vary by orders of magnitude within distinct areas of a slick, thus the actual slick thickness and oil distribution of target areas are crucial for determining response method feasibility. Further to this, ITOPF also states in terms of oil spill response, sheen can be disregarded as it represents a negligible quantity of oil, cannot be recovered or otherwise dealt with to a significant degree by existing response techniques, and is likely to dissipate readily and naturally (ITOPF, 2014a, 2014b).

Figure 2-4 from AMSA's Identification of Oil on Water – Aerial Observation and Identification Guide (AMSA, 2014) shows expected percent coverage of surface hydrocarbons as a proportion of total surface area. Windrows, heavy oil patches and tar balls, for example, must be considered, as they influence oil encounter rates, chemical dosages and ignition potential. Each method has different thickness thresholds for effective response.

From this information and other relevant sources (Allen and Dale, 1996; EMSA, 2012; Spence, 2018) the surface threshold of 50 g/m² was chosen as an average/equilibrium thickness (50 g/m² is an average of 50% coverage of 0.1 mm Bonn Agreement Code 4 – discontinuous true oil colour, or 25% coverage of 0.2 mm Bonn Agreement Code 5 – continuous true oil colour which would represent small patches of thick oil or windrows).

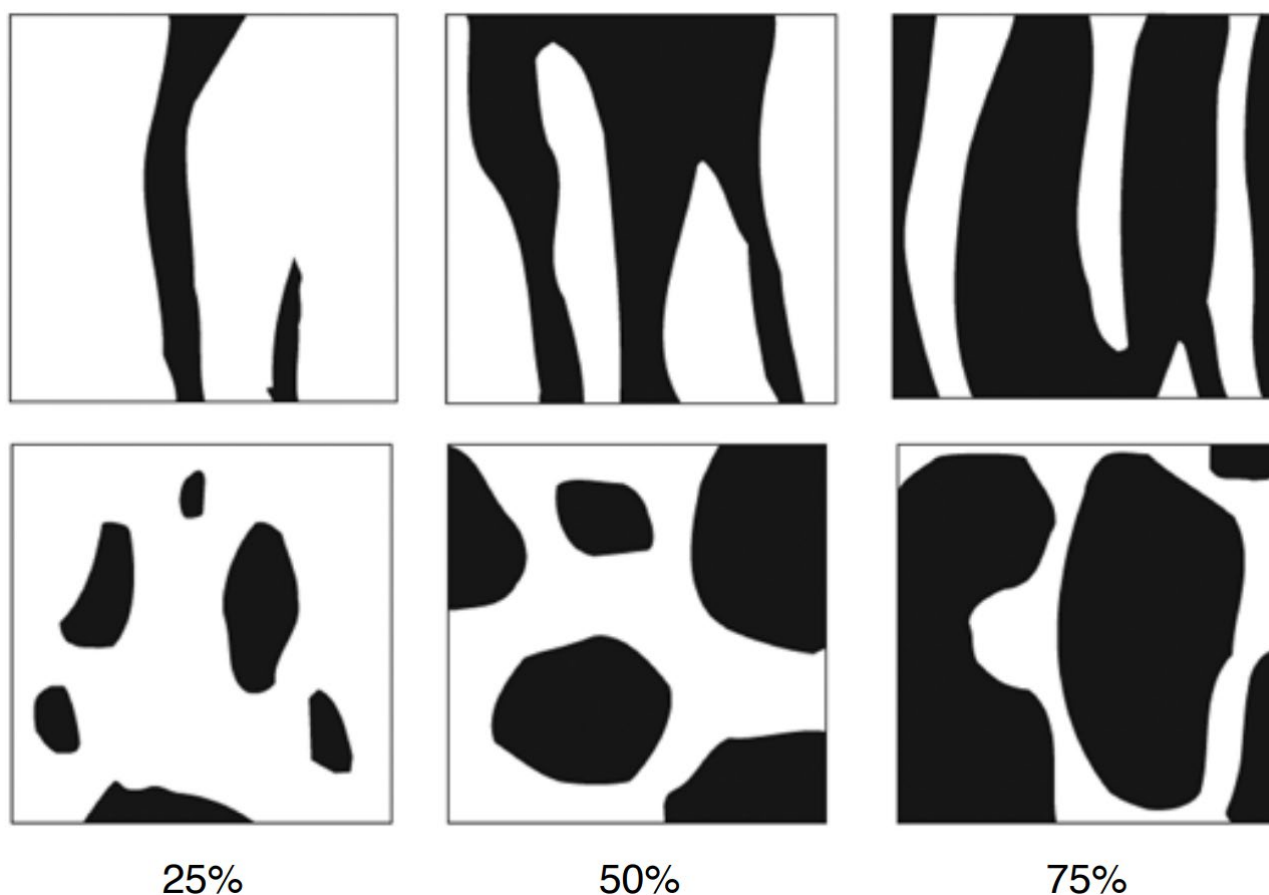


Figure 2-4: Proportion of total area coverage (AMSA, 2014)

Figure 2-5 illustrates the general relationships between on-water response techniques and slick thickness. Windrows, heavy oil patches and tar balls, for example, must be considered, as they influence oil encounter rates, chemical dosages and ignition potential. Each method has different thickness thresholds for effective response.

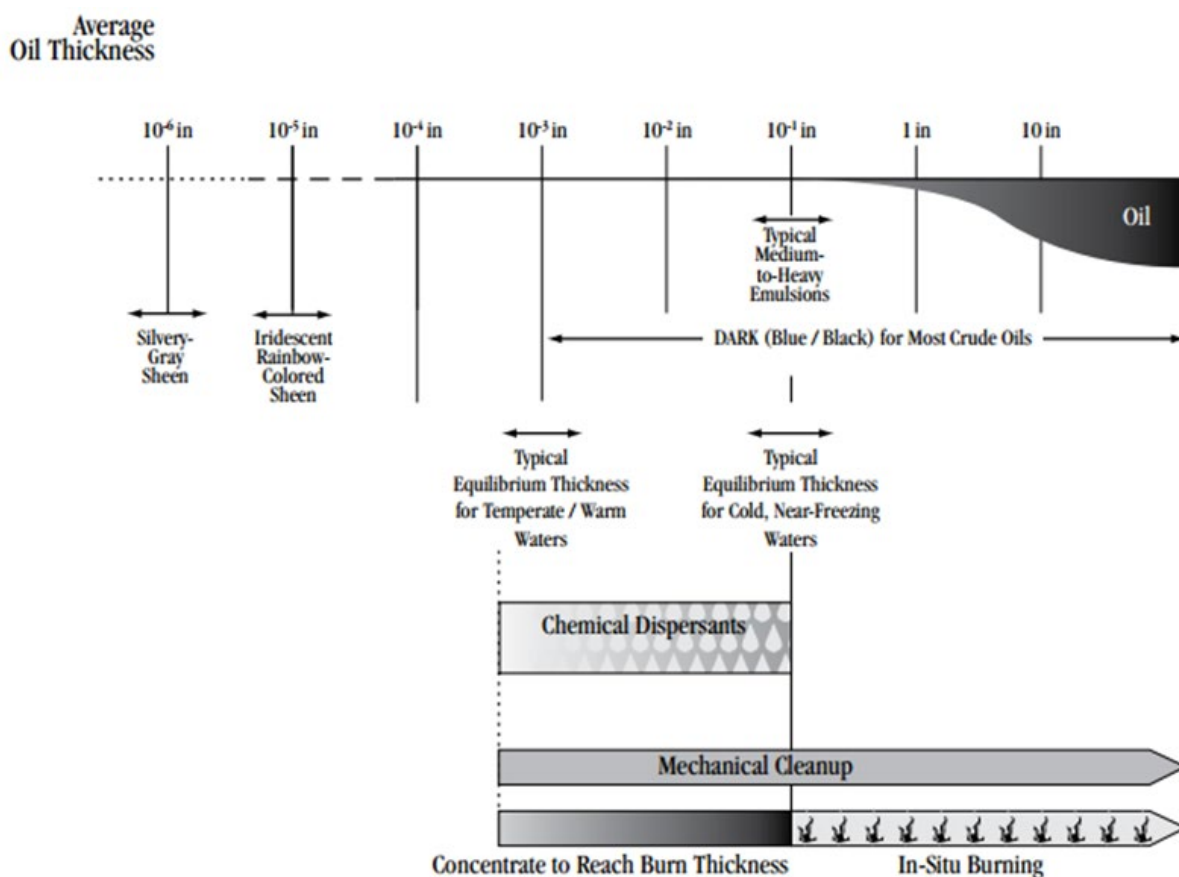


Figure 2-5: Oil thickness versus potential response options (from Allen and Dale 1996)

Wind and wave influence on the feasibility of response operations are also considered below (adapted from NOAA 2013):

- **Mechanical Clean-up:** Effectiveness drops significantly because of entrainment and/or splash-over as short period waves develop beyond 2–3 ft. (0.6–0.9m) in height. The ability to contain and recover oil decreases rapidly as the slick thickness becomes less than a thousandth of an inch (0.025 mm) (i.e., very low oil encounter rates). Waves and wind can also be limiting factors for the safe operation of vessels and aircraft.
- **Dispersants:** Effective dispersion requires a threshold amount of surface mixing energy (typically a few knots of wind and a light chop) to be effective. At higher wind and sea conditions, dispersant evaporation and wind-drift will limit chemical dispersion application effectiveness; and, there is a point (~25-kt winds, 10-ft waves) where natural dispersion forces become greater, particularly for light oils. Because of droplet size versus slick thickness constraints and application dose-rate limitations, dispersants work best on slick thicknesses of a few thousandths (approx. 50 g/m²) to hundredths of an inch (approx. 250 g/m²). Improved dispersants, higher dose rates, and multiple-pass techniques may extend the thickness limitation to 0.1 inch (2.5 mm) or more.

As offshore response operations (surface dispersant and containment and recovery) are intended to be undertaken at the thickest part of the slick, 50 g/m² and 100 g/m² (aligning with the lower limit of BAOAC 4 and midpoint of BAOAC 5) have been utilised by Woodside in deterministic modelling to identify the most likely locations for surface dispersant application and containment and recovery operations.

2.3.3.2 Surface hydrocarbon viscosity

Table 2-5: Surface hydrocarbon viscosity thresholds

Surface viscosity (cSt)	Description	European Maritime Safety Authority	Viscosity at sea temperature (cSt)
5000*	Predicted optimum viscosity for surface dispersant operations	Generally possible to disperse	500-5000
10,000*	Predicted maximum viscosity for effective surface dispersant operations	Sometimes possible to disperse	5000-10,000

*Measured at sea surface temperature

Further to the required thickness for surface dispersant application and containment and recovery to be deployed effectively as outlined above, changes to viscosity will also limit the treatment of offshore response techniques. As outlined in the EMSA Manual on the Applicability of Oil Spill Dispersants (EMSA, 2012), guidance around changes to viscosity and likely effectiveness of surface dispersant application is provided.

This includes the following statements: “It has been known for many years that it is more difficult to disperse a high viscosity oil than a low or medium viscosity oil. Laboratory testing had shown that the effectiveness of dispersants is related to oil viscosity, being highest for modern “Concentrate, UK Type 2/3” dispersants at an oil viscosity of about 1000 or 2000 mPa (1000 – 2000 cSt) and then declining to a low level with an oil viscosity of 10,000 mPa (10,000 cSt). It was considered that some generally applicable viscosity limit, such as 2000 or 5000 mPa (2000 – 5000 cSt), could be applied to all oils.”

However, modern oil spill dispersants are generally effective up to an oil viscosity of 5000 mPa (5000 cSt) or more, and their performance gradually decreases with increasing viscosity; oils with a viscosity of more than 10,000 cSt are in most cases, no longer dispersible. Guidance from CEDRE (EMSA, 2012) also indicates products with a range of 500 – 5000 cSt at sea temperature are generally possible to disperse, while 5000 – 10,000 cSt at sea temperature above pour point are sometimes possible to disperse, with products beyond 10,000 cSt at sea temperature below pour point are generally impossible to disperse.

To support decision making and response planning, a threshold of 10,000 cSt at sea temperature was chosen as a conservative estimate of maximum viscosity for surface dispersant spraying operations.

Spills of MDO will not reach the 10,000 cSt threshold for the duration of the spill and dispersant is not deemed to provide a net environmental benefit for response to a spill of MDO. The thresholds described above are compared with the modelling results for the WCCS (**Table 2-6**).

2.3.4 Spill modelling results

Details of the scenario and modelling inputs and results are included in **Table 2-6**.

The selected deterministic runs used to represent the WCCS are:

- Minimum time to floating hydrocarbon contact with the offshore edge(s) of any shoreline receptor polygon (at a threshold of 10 g/m²).
- Minimum time to commencement of hydrocarbon accumulation at any shoreline receptor (at a threshold of 100 g/m²).
- Maximum cumulative hydrocarbon volume accumulated at any individual shoreline receptor (at a threshold of 100 g/m²).
- Maximum cumulative hydrocarbon volume accumulated across all shoreline receptors (at a threshold of 100 g/m²).
- Minimum time to entrained/dissolved hydrocarbon contact with the offshore edges of any receptor polygon (at a threshold of 100 ppb).

Table 2-6: Worst case credible scenario modelling results

Scenario description	Results		
	CS-01	CS-02	CS-03
WCCS – total volume released Refer to Section 2.2.1 for detailed hydrocarbon characteristics	An uncontrolled subsea LOWC event discharging 29,618 m ³ release of Pyrenees Crude ⁶ over 69 days at the Stickle-4H1 well site.	A short-term surface release of 14,600 m ³ of Pyrenees Crude from a cargo tank caused by a vessel collision with the FPSO.	MDO spill of 330 m ³ from ruptured fuel tank due to vessel collision close to Crosby-3H1 well
WCCS – residual volume remaining post-weathering	54.4% residual component or 16,112 m ³ .	54.4% residual component or 7,942.4 m ³ .	5% residual component or 16.5 m ³
Location	21° 31' 23.679" S 114° 06' 35.289" E	21° 32' 28.1" S 114° 06' 58.6" E	21° 32' 43.063" S 114° 05' 42.504" E
Modelling results			
Surface area of hydrocarbons (>50 g/m²)	1 km ² on day 3 only (deterministic run: Q4, Run 9)	48 km ² on day 1 84 km ² on day 2 56 km ² on day 3 110 km ² on day 4 44 km ² on day 5 10 km ² on day 6 (deterministic run: Q1, Run 47)	Surface area data not available. Stochastic modelling predicts presence at >50 g/m ² from ~170 km southwest to ~130 km northeast of the release location.
Surface area of hydrocarbons (>50 g/m² and <10,000 cSt)	1 km ² on day 3 (deterministic run: Q4, Run 9)	48 km ² on day 1 35 km ² on day 2 (deterministic run: Q1, Run 47)	No contact >10,000 cSt
Minimum time to floating oil contact with offshore edge(s) of any shoreline receptor polygon (at a threshold of 10 g/m²).	4 days at Exmouth, Ningaloo Coast World Heritage (WH) and State MP (deterministic run: Q3, Run 4)	0.2 days at Exmouth, Ningaloo Coast WH and State MP (deterministic run: Q2, Run 2)	0.2 days at Exmouth, Ningaloo Coast WH and State MP and Gascoyne MP
Minimum time to commencement of oil accumulation at any shoreline receptor (at a threshold of 100 g/m²).	3 days at Exmouth, Ningaloo Coast WH and State MP (1701 m ³) (deterministic run: Q1, Run 22)	1.5 days at Exmouth, Ningaloo Coast WH and State MP (2029 m ³) (deterministic run: Q1, Run 47)	0.7 days at Exmouth, Ningaloo Coast WH and State MP (202.1 tonnes)
Maximum cumulative oil volume accumulated across all shoreline receptors (at concentrations in excess of 100 g/m²).	4409 m ³ across all shorelines with 3432 m ³ at Exmouth, Ningaloo Coast WH and State MP (32 days) (deterministic run: Q4, Run 22)	7212 m ³ across all shorelines with 3571 m ³ at Ashburton coastline (16.6 days) (deterministic run: Q4, Run 2)	202.1 tonnes at Exmouth, Ningaloo Coast WH and State MP (0.7 days)
Maximum cumulative oil volume accumulated at any individual shoreline receptor (at concentrations in excess of 100 g/m²).	3606 m ³ at Exmouth, Ningaloo Coast WH and State MP (19 days) (deterministic run: Q4, Run 9)	3571 m ³ at Ashburton coastline (16.6 days) (deterministic run: Q4, Run 2)	202.1 tonnes at Exmouth, Ningaloo Coast WH and State MP (0.7 days)
Minimum time for contact by entrained oil (at a threshold of 100 ppb) or dissolved hydrocarbons (at a threshold of 50 ppb) with the offshore edge(s) of any shoreline receptor.	0.6 days (15 hours) at Gascoyne MP (deterministic run: Q1, Run 22)	0.2 days at Exmouth, Ningaloo Coast WH and State MP (deterministic run: Q2, Run 2)	0.2 days at Exmouth, Ningaloo Coast WH and State MP and Gascoyne MP
The full list of response protection areas (RPAs) predicted from modelling is available in Table 3-1			

⁶ Characteristics of all hydrocarbons returned to the Pyrenees FPSO (Ravensworth, Crosby and Stickle crude) are very similar and therefore considered to have the same characteristics (including weathering) and, hereafter, are referred to as 'Pyrenees Crude'. Martin Linge Crude has been modelled as an appropriate analogue.

From the above modelling results in Table 2-6, deterministic runs Q4, Run 9, Q1, Run 22 and Q4, Run 22 have been used as the basis for response planning for CS-01. Deterministic runs Q1, Run 47, and Q4, Run 22 have been used as the basis for response planning for CS-02. Stochastic modelling has been used for CS-03.

The maps below display the predicted surface concentration of oil at 0-50 g/m² (BAOAC Code 1-3 sheen - light grey), 50-200 g/m² (BAOAC Code 4 – discontinuous true oil colour - brown) and 200 g/m² and above (BAOAC Code 5 – continuous true oil colour - black) over the initial 5 days for scenarios CS-01 and CS-02 and have been chosen for surface spill response planning purposes. CS-03 is an MDO spill thus use of containment and recovery and surface dispersant are not appropriate so no map is required for this scenario.

As shown in the figures below and from analysis of the deterministic results, modelling predicts the following:

CS-01 (Figure 2-6)

- The subsea release is predicted to result in surface concentrations for minor containment and recovery and potential surface dispersant operations of 1 km² on day 3 only (Q4, Run 9). Before and after this, surface hydrocarbons are below feasible response thresholds of 50 g/m². Additionally, surface dispersant application is only permitted whilst present in the pre-defined Zone of Application for surface dispersants as illustrated in Figure 2-6. Floating hydrocarbons are not predicted to exceed the maximum feasible viscosity of 10,000 cSt for the duration of the spill event.
- Response operations cannot be implemented if the safety of response personnel cannot be guaranteed. Safety circumstances that limit the execution of this control measure include volatile concentrations of hydrocarbons in the atmosphere, high winds (>20 knots), waves and/or sea states (>1.5m waves) and high ambient temperatures.

CS-02 (Figure 2-7)

- The surface release results in sufficient concentrations for effective surface dispersant and containment and recovery operations (>50 g/m² and <10,000 cSt) up to 48 hours after the spill (Figure 2-7). Thereafter, the viscosity of the oil exceeds the upper viscosity limit. The surface oil is, however, predicted to move beyond the pre-defined Zone of Application for surface dispersants from day 1 including movement into WA State waters. Dispersant would only be applied where the application criteria is met i.e. within the Zone of Application.
- Response operations cannot be implemented if the safety of response personnel cannot be guaranteed. Safety circumstances that limit the execution of this control measure include volatile concentrations of hydrocarbons in the atmosphere, high winds (>20 knots), waves and/or sea states (>1.5m waves) and high ambient temperatures.

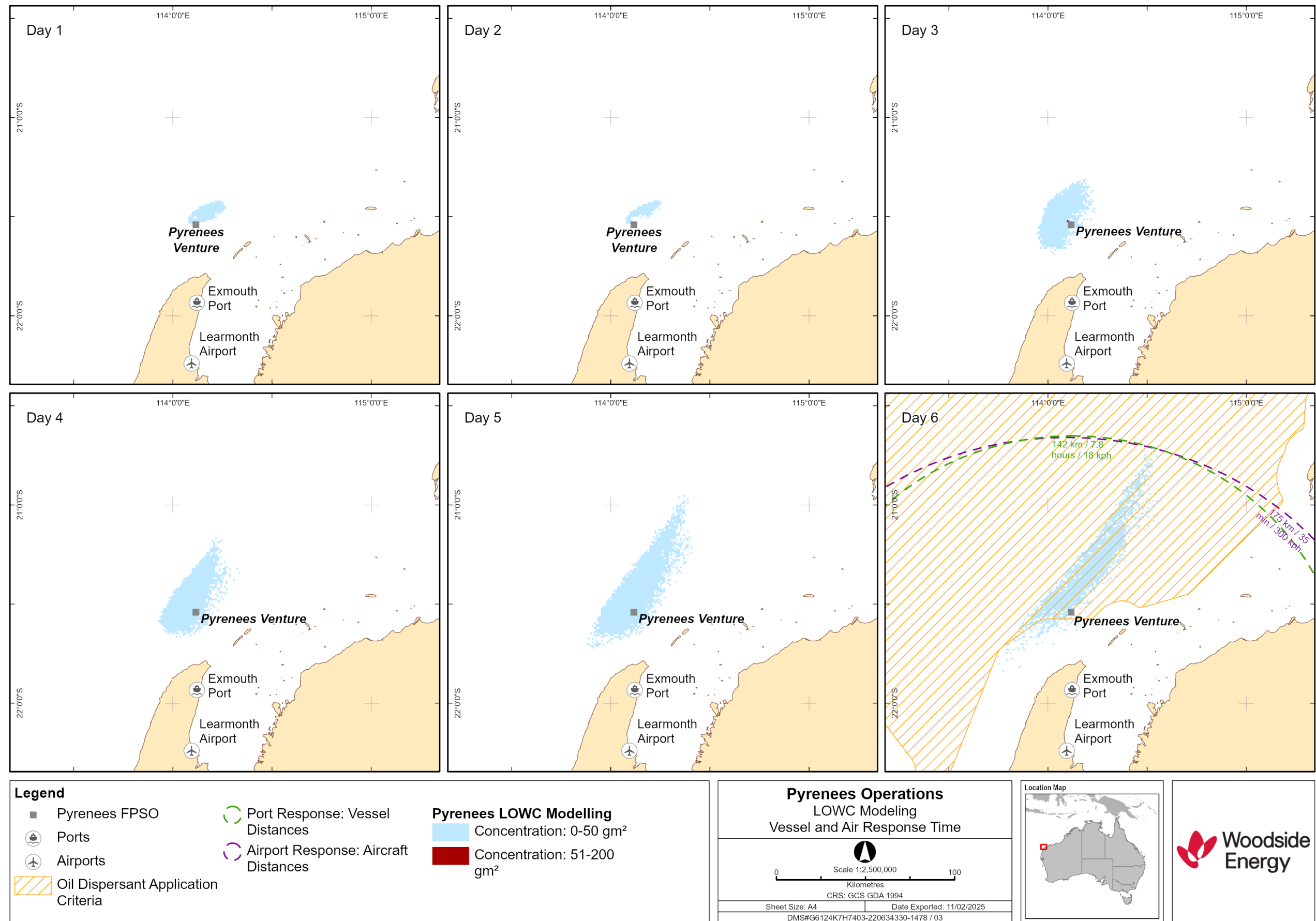


Figure 2-6: CS-01 – Day 1-5 – Surface oil concentration

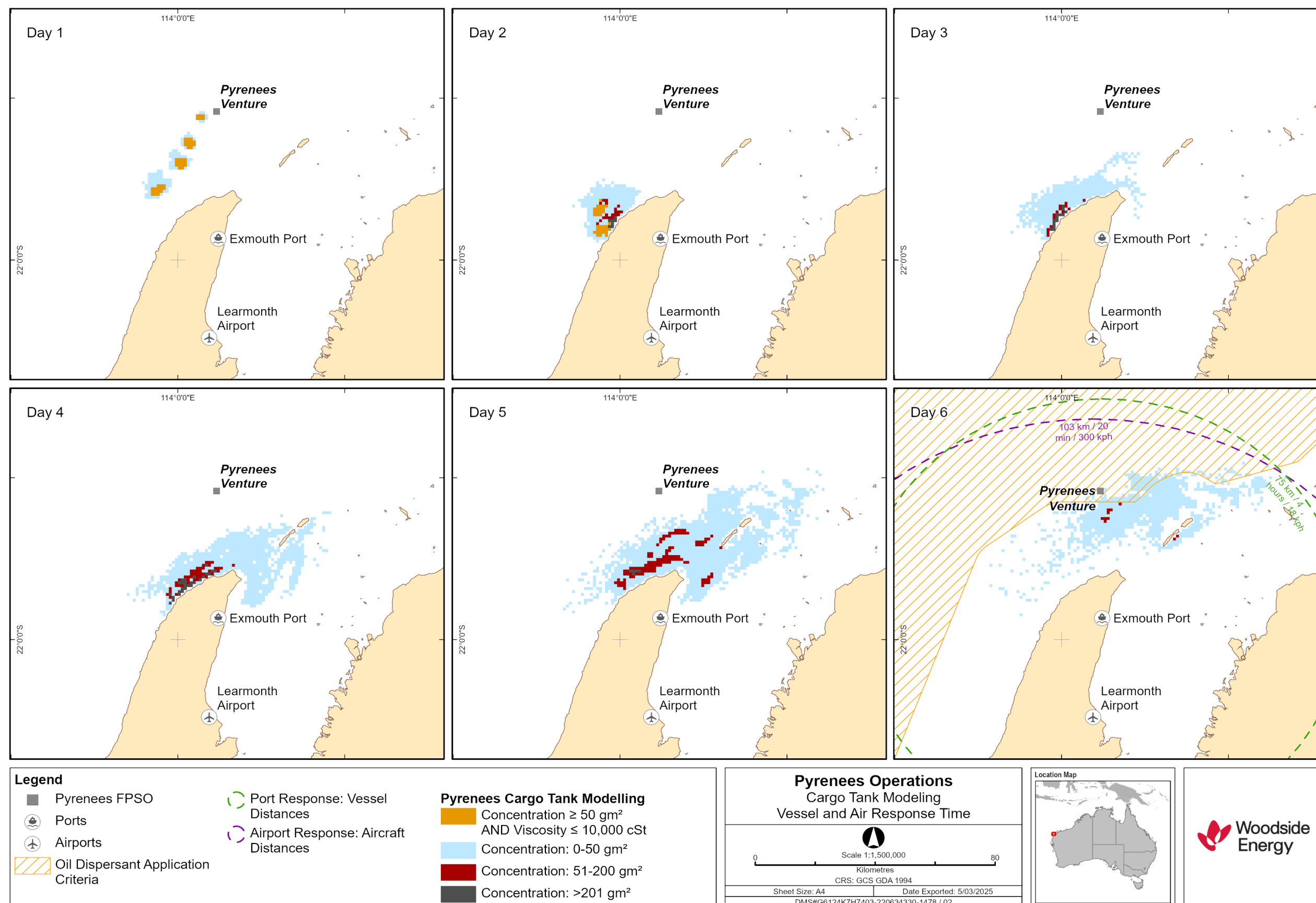


Figure 2-7: CS-02– Day 1-5 – Surface oil viscosity and concentration

3 IDENTIFY RESPONSE PROTECTION AREAS

In a response, monitor and evaluate activities, including trajectory modelling and vessel/aerial observations, would be used to predict Response Protection Areas (RPAs) that may be impacted. For the purposes of planning and appropriately scaling a response, modelling has been used to identify RPAs as outlined below in Figure 3-1.

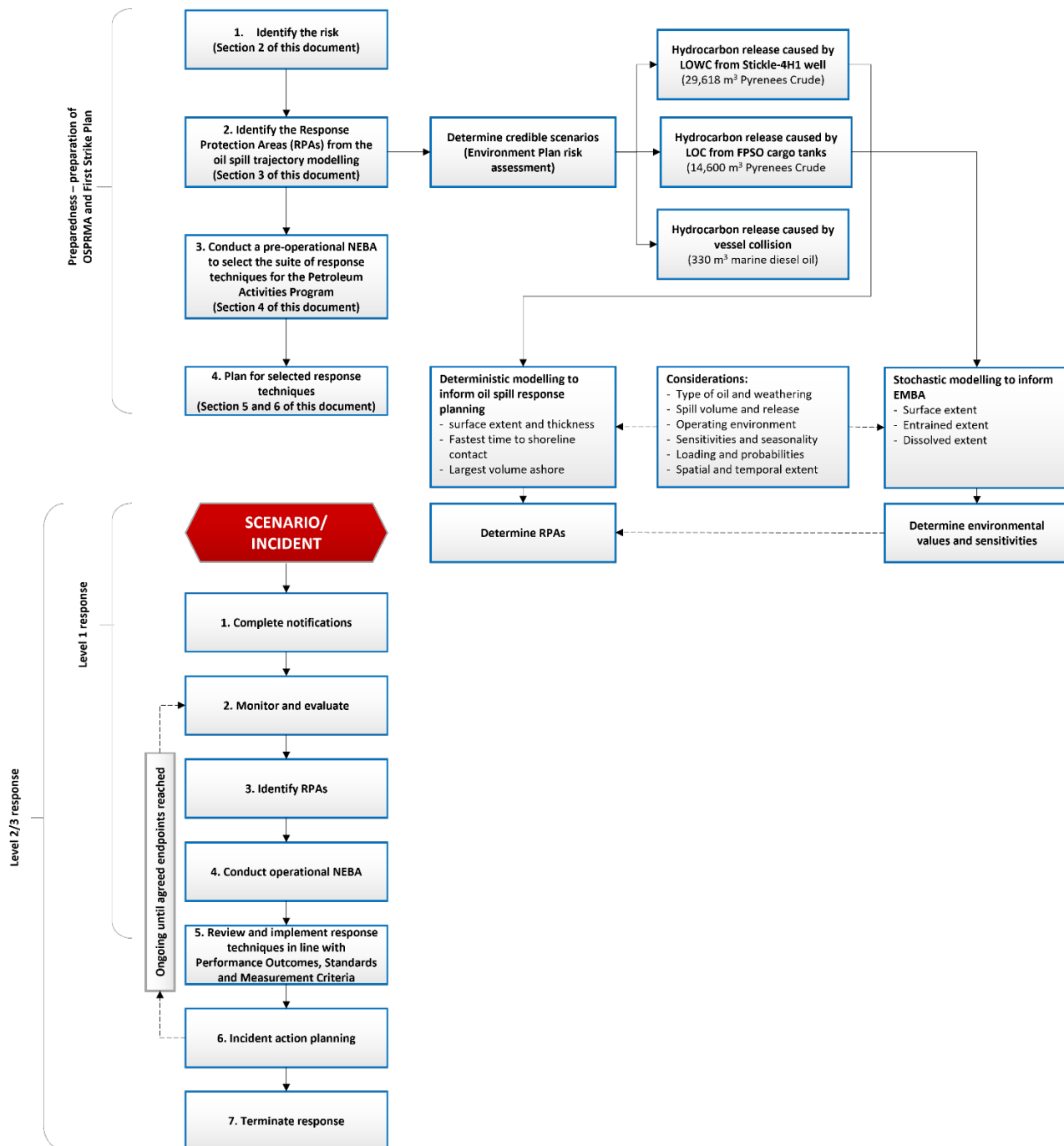


Figure 3-1: Identify Response Protection Areas (RPAs) flowchart

3.1 Identified sensitive receptor locations

Section 6 of the EP includes the list of sensitive receptor locations that have been identified by stochastic modelling as meeting the requirements outlined below:

- receptors with the potential to incur surface, entrained or shoreline accumulation contact above environmental impact thresholds
- receptors within the EMBA which meet any of the following:
 - priority protection criteria/ categories
 - International Union of Conservation of Nature (IUCN) marine protected area categories
 - high conservation value habitat and species
 - important socio-economic/heritage value.

3.2 Identify Response Protection Areas

RPAs have been selected on the basis of their environmental ecological, social, economic, cultural and heritage values and sensitivities and the ability to conduct a response based on the minimum response thresholds (Section 2.3.3). The figures outlined in Table 3-1 are the combined results of the individual worst-case runs and do not indicate a single worst case credible scenario (where the timings and volumes are all expected from one release).

From the identified sensitive receptors described in Section 6 of the EP, only those which a shoreline response could feasibly be conducted (accumulation > 100 g/m² for shoreline assessment and/or contact with surface slicks >10 g/m² for monitor and evaluate activities) have been selected for response planning purposes. While not discounting other sensitivities, these RPAs have been used as the basis for demonstrating the capability to respond to the nature and scale of a spill from the WCCS and prioritising response techniques.

Table 3-1 outlines locations which were identified from the modelling runs for the WCCS but does not constitute the full list of Response Protection Areas (RPAs) potentially contacted from stochastic modelling (as per EMBA definition) (see Section 4 of the EP). Other RPA outliers were identified from the modelling and have been included in the assessment of capability in Sections 5 and 6.

Additional sensitive receptors are presented the existing environment description (Section 4 of the EP) and impact assessment section (Section 6 of the EP) for each respective spill scenario. The pre-operational NEBA (ANNEX A: Net Environmental Benefit Analysis detailed outcomes) includes the results from the stochastic modelling to allow consideration of all feasible response techniques in the planning phase, therefore additional receptors are also included in the pre-operational NEBA.

The RPAs identified in Table 3-1 are used to plan for the nature and scale of a shoreline response. The conservation status and IUCN protection categories for these receptors is detailed in Section 4 of the Pyrenees Facility Operations EP.

Table 3-1: Response Protection Areas (RPAs) from deterministic modelling (CS-01 and CS-02) and stochastic modelling (CS-03)

Response protection area	Minimum time to shoreline contact (above 100 g/m ²) in days (Q1, Run 22)	Maximum shoreline accumulation (above 100 g/m ²) in (Q4, Run 22)	Minimum time to shoreline contact (above 100 g/m ²) in days (Q1, Run 47))	Maximum shoreline accumulation (above 100 g/m ²) in (Q4, Run 2)	Minimum time to shoreline contact (above 100 g/m ²) in days	Maximum shoreline accumulation (above 100 g/m ²) in tonnes
	CS-01		CS-02		CS-03	
Exmouth, Ningaloo Coast WH and State MP	3 days (1701 m ³)	3,432 m ³ (32 days)	2 days (2029 m ³)	155 m ³ (day 15)	0.7 days (202.1 tonnes)	202.1 tonnes (0.7 days)
Cape Range	3 days (1174 m ³)	1542 m ³ (32 days)	9 days (17 m ³)	8 m ³ (16 days)	<i>No contact</i>	<i>No contact</i>
Muiron Islands and MMA	5 days (112 m ³)	244 m ³ (32 days)	4 days (1583 m ³)	57 m ³ (14 days)	0.9 days (125.9 tonnes)	125.9 tonnes (0.9 days)
Sunday Island	6 days (15 m ³)	44 m ³ (29 days)	5 days (141 m ³)	13 m ³ (15 days)	<i>No contact</i>	<i>No contact</i>
Southern Pilbara - Islands including Peak Island	6 days (141 m ³)	536 m ³ (31 days)	5 days (209 m ³)	1718 m ³ (12 days)	<i>No contact</i>	<i>No contact</i>
Flat Island	8 days (11 m ³)	40 m ³ (32 days)	9 days (15 m ³)	111 m ³ (15 days)	<i>No contact</i>	<i>No contact</i>
Fly Island	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	7 m ³ (17 days)	<i>No contact</i>	<i>No contact</i>
Bessieres Island	10 days (29 m ³)	50 m ³ (32 days)	17 days (2 m ³)	216 m ³ (17 days)	<i>No contact</i>	<i>No contact</i>
Twin Island	14 days (2 m ³)	15 m ³ (35 days)	<i>No contact</i>	8 m ³ (17 days)	<i>No contact</i>	<i>No contact</i>
Locker Island	<i>No contact</i>	<i>No contact</i>	15 days (2 m ³)	176 m ³ (16 days)	<i>No contact</i>	<i>No contact</i>
Serrurier Island	15 days (21 m ³)	72 m ³ (32 days)	11 days (43 m ³)	272 m ³ (15 days)	<i>No contact</i>	<i>No contact</i>
Round Island	16 days (6 m ³)	17 m ³ (33 days)	11 days (26 m ³)	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>
Tortoise Island	17 days (14 m ³)	27 m ³ (34 days)	16 days (4 m ³)	88 m ³ (17 days)	<i>No contact</i>	<i>No contact</i>
Thevenard Island and NR	17 days (44 m ³)	127 m ³ (34 days)	<i>No contact</i>	579 m ³ (17 days)	<i>No contact</i>	<i>No contact</i>
Airlie Island	19 days (3 m ³)	8 m ³ (34 days)	<i>No contact</i>	182 m ³ (15 days)	<i>No contact</i>	<i>No contact</i>
Karratha	<i>No contact</i>	20 m ³ (36 days)	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>
Barrow Island	24 days (103 m ³)	171 m ³ (33 days)	<i>No contact</i>	942 m ³ (13 days)	4 days (6.1 tonnes)	6.1 tonnes (4 days)
Ashburton Island	22 days (2 m ³)	14 m ³ (35 days)	<i>No contact</i>	23 m ³ (17 days)	<i>No contact</i>	<i>No contact</i>
Boodie, Double Middle Islands Nature Reserve NR	24 days (33 m ³)	50 m ³ (34 days)	<i>No contact</i>	8 m ³ (13 days)	<i>No contact</i>	<i>No contact</i>
Y Island	27 days (2 m ³)	15 m ³ (33 days)	<i>No contact</i>	3 m ³ (17 days)	<i>No contact</i>	<i>No contact</i>
Rivoli Islands	27 days (3 m ³)	70 m ³ (33 days)	<i>No contact</i>	28 m ³ (16 days)	<i>No contact</i>	<i>No contact</i>
Observation Island	28 days (4 m ³)	17 m ³ (32 days)	11 days (77 m ³)	11 m ³ (15 days)	<i>No contact</i>	<i>No contact</i>
Lowendal Islands	<i>No contact</i>	3 m ³ (33 days)	<i>No contact</i>	4 m ³ (15 days)	<i>No contact</i>	<i>No contact</i>
Exmouth Gulf South East including Whalebone Island and Tent Island	<i>No contact</i>	315 m ³ (34 days)	<i>No contact</i>	115 m ³ (17 days)	<i>No contact</i>	<i>No contact</i>
Exmouth Gulf West	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>
Montebello Islands MP including Hermite Island	<i>No contact</i>	35 m ³ (35 days)	<i>No contact</i>	885 m ³ (15 days)	<i>No contact</i>	<i>No contact</i>
Middle Pilbara - Islands and Shoreline including Mary-Anne Group	<i>No contact</i>	130 m ³ (35 days)	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>
Mangrove Islands	<i>No contact</i>	17 m ³ (35 days)	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>
Great Sandy Island NR	<i>No contact</i>	32 m ³ (35 days)	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>
Passage Islands	<i>No contact</i>	16 m ³ (36 days)	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>
North Sandy Island NR	<i>No contact</i>	5 m ³ (37 days)	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>
Northern Pilbara - Shoreline	<i>No contact</i>	4 m ³ (38 days)	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>
Carnarvon	54 days (17 m ³)	82 m ³ (35 days)	19 days (3 m ³)	3 m ³ (19 days)	<i>No contact</i>	<i>No contact</i>
Table Island	54 days (4 m ³)	17 m ³ (32 days)	17 days (5 m ³)	20 m ³ (15 days)	<i>No contact</i>	<i>No contact</i>
Direction Island	55 days (2 m ³)	12 m ³ (35 days)	<i>No contact</i>	11 m ³ (17 days)	<i>No contact</i>	<i>No contact</i>
Southern Pilbara - Shoreline at Ashburton	55 days (2 m ³)	573 m ³ (34 days)	<i>No contact</i>	3571 m ³ (17 days)	<i>No contact</i>	<i>No contact</i>
Dampier Archipelago Islands/ reserves/ reefs	<i>No contact</i>	2 m ³ (55 days)	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>	<i>No contact</i>

4 NET ENVIRONMENTAL BENEFIT ANALYSIS (NEBA)

A Net Environmental Benefit Analysis (NEBA) is a structured process to consider which response techniques are likely to provide the greatest net environmental benefit.

The NEBA process typically involves four key steps outlined in Figure 4-1: evaluate data, predict outcomes, balance trade-offs, and select response options. These steps are followed in the planning/preparedness process and would also be followed in a response.

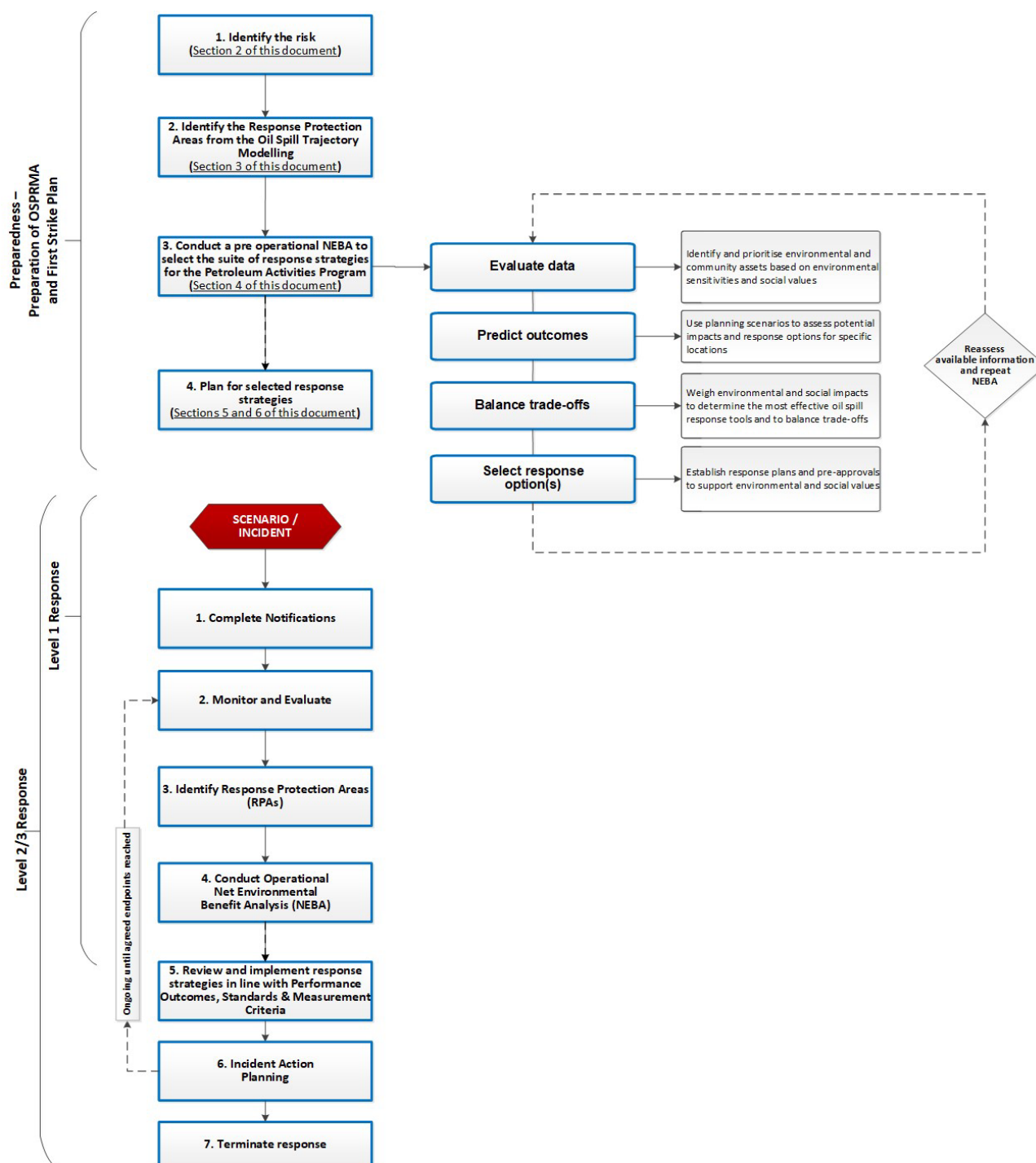


Figure 4-1: Net Environmental Benefit Analysis (NEBA) flowchart

4.1 Pre-operational / Strategic NEBA

The pre-operational NEBA identifies positive and negative impacts to sensitive receptors from implementing the response techniques. Feasibility is considered by assessing the receptors potentially impacted above response thresholds (Section 2.3.3) and the surface concentrations (Section 2.3.3.1) from the modelling.

Completing a pre-operational NEBA is a key response planning control that reduces the environmental risks and impacts of implementing the selected response techniques. Comprehensive details of the pre-operational NEBA for this PAP are contained in **ANNEX A: Net Environmental Benefit Analysis** detailed outcomes.

4.2 Stage 1: Evaluate data

Woodside identifies and prioritises environmental and community assets based on environmental sensitivities and social values, informed using trajectory modelling. Interpretation of stochastic oil spill modelling determines the EMBA for the release, which defines the spatial area that may be potentially impacted by the PAP.

4.2.1 Define the scenario(s)

Woodside uses scenarios identified from the risk assessment in the EP to assess potential impacts and response options for specific locations. The WCCS is then selected for deterministic modelling and is used for this pre-operational NEBA. Outlier locations with potential environmental impacts, selected from the stochastic modelling may also be included for assessment. Response thresholds and deterministic modelling are then used to assess the feasibility/effectiveness and scale of the response. Modelling results are available in Table 2-6 and Table 3-1.

4.3 Stage 2: Predict Outcomes

Woodside uses planning scenarios to assess potential impacts and response options for specific locations. Locations with potential environmental impacts, selected from the stochastic modelling are included for assessment. Response thresholds and deterministic modelling are then used to assess the feasibility/effectiveness of a response.

4.4 Stage 3: Balance trade-offs

Woodside considers environmental impacts and response feasibility/ effectiveness to determine the most effective oil spill response tools and balance trade-offs, using an automated NEBA tool. The tool considers potential benefits and impacts associated with a response at sensitive receptors and then considers the feasibility/ effectiveness of the response to select the response techniques carried forward to the ALARP assessment. The NEBA can be found in **ANNEX A: Net Environmental Benefit Analysis detailed outcomes**.

4.5 Stage 4: Select Best Response Options

To select the response technique, all the other stages in the NEBA process are considered and used to establish response plans and any pre-approvals to support protection of identified environmental and social values.

The response techniques implemented may vary according to a particular spill. The hydrocarbon type released, and the sensitivities of the receptors (both ecological and socio-economic), may influence the response. The pre-operational NEBA broadly evaluates each response technique and supports decisions on whether they are feasible and of net environmental benefit. Response techniques that are not feasible or beneficial are rejected at this stage and not progressed to planning.

Further risks and impacts from implementing these selected response options are outlined in Section 7.

4.5.1 Determining potential response options

The available response techniques based on current technology can be summarised under the following headings:

- Monitor and evaluate
- Source control
 - remotely operated vehicle (ROV) intervention
 - debris clearance and/or removal
 - capping stack
 - containment dome
 - relief well drilling
- Source control via vessel SOPEP
- Subsea dispersant injection

- Surface dispersant application:
 - aerial dispersant application
 - vessel dispersant application
- Mechanical dispersion
- In-situ burning
- Containment and recovery
- Shoreline protection and deflection:
 - protection
 - deflection
- Shoreline clean-up:
 - Phase 1 – mechanical clean-up
 - Phase 2 – manual clean-up
 - Phase 3 – final polishing
- In-situ burning
- Oiled wildlife response (including hazing)

Support functions may include:

- Waste management
- Operational and scientific monitoring (routinely implemented for spills if the OMP and SMP initiation criteria are met).

Table 4-1, Table 4-2 and Table 4-3 include scenario-specific assessments of feasible response options and justification for the exclusion of inappropriate options. These options are evaluated against the scenario parameters including oil type, volume, characteristics, prevailing weather conditions, logistical support, and resource availability to determine deployment feasibility.

A shortlist of the feasible response options is then carried forward for the ALARP assessment. This assessment will typically result in a range of available options, that are deployed at different areas (at-source, offshore, nearshore and onshore) and different times during the response. The NEBA process assists in prioritising which options to use where and when, and timings throughout the response.

Table 4-1: Response technique evaluation – loss of well containment (CS-01)

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
Hydrocarbon: Pyrenees Crude				
Monitor and evaluate	Will be effective in tracking the location of the spill, informing when it has entered State Waters, predicting potential impacts and triggering further monitoring and response techniques as required. Monitoring techniques include: - Predictive modelling of hydrocarbons – used throughout spill. 'Ground-truthed' using the outputs of all other monitoring techniques. - Surveillance and reconnaissance to detect hydrocarbons and resources at risk – from outset of spill. - Pre-emptive assessment of sensitive receptors at risk – triggered once monitor and evaluate informs likely RPAs at risk.	Monitoring of a Pyrenees Crude spill is a feasible response technique and an essential element of all spill response incidents. Outputs will be used to guide decision making on the use of other monitoring/response techniques and providing required information to regulatory agencies including AMSA and Western Australia Department of Transport and Major Infrastructure (WA DTMI).	Yes	Monitoring the spill will be necessary to: - validate trajectory and weathering models - determine the location and state of the slick - provide forecasts of spill trajectory - determine appropriate response techniques - determine effectiveness of response techniques - confirm impact pathways to receptors - provide regulatory agencies with required information.
Source control via well intervention using ROV and SFRT	Controlling a loss of well containment at source via well intervention would be the most effective way to limit the quantity of hydrocarbon entering the marine environment.	In the event of the worst-case scenario with a loss of well containment during drilling operations, ROV operations can be used to locally conduct well intervention.	Yes	The use of source control intervention via ROV may be feasible (depending on local concentration of atmospheric volatiles) and would reduce quantity of hydrocarbons entering the marine environment.
Source control via debris clearance and capping stack	Controlling a loss of well containment at source via capping stack would be an effective way to limit the quantity of hydrocarbon entering the marine environment.	Capping a Pyrenees well is considered feasible based on worst-case discharge rates. In the event of a loss of well containment, the use of a proven subsea deployment method such as a heavy lift vessel, which is commonly used in industry, is a more reliable and, in turn, ALARP approach. If environmental conditions permit (wind speed, wave height, current and plume radius), deployment of a capping stack would be attempted with a heavy lift vessel. Woodside maintains several frame agreements with various vessel service providers and maintains the ability to call-off services with a capping stack and debris clearance agreement. The location of suitable vessels for capping stack deployment are monitored monthly. Consideration to mobilise the capping stack from the supplier on a suitable vessel but then hand over to another vessel to conduct the capping activity will also be made to meet response time frames.	Yes	Conventional/ vertical capping stack deployment with a heavy lift vessel will be attempted at the discretion of the vessel master on the day, giving due regard to the safety of the vessel and crew. Circumstances that limit the safe execution of this control measure include lower explosive limit (LEL) concentrations, volatile concentrations of hydrocarbons in the atmosphere, weather window, waves and/or sea states and high ambient temperatures.
Source control via relief well drilling	A release of Pyrenees Crude will be over approximately 69 days. Relief well drilling is one of the primary options to stop the release.	For a spill from a Pyrenees well, relief well drilling will be a feasible means of stopping a loss of well containment event. Relief well drilling is a widely accepted and utilised technique.	Yes	Relief well drilling will be the main technique employed to control a loss of well containment event.
Subsea dispersant injection	Application of subsea dispersant (SSDI) may reduce the scale and extent of hydrocarbons reaching the surface and thus may reduce spill volumes contacting predicted RPAs. SSDI can increase dispersed/entrained hydrocarbons which can potentially have higher toxicity to biota in shallow water than naturally dispersed hydrocarbons. Entrained oil could potentially impact sensitive shallow-water receptors e.g. corals and fish, which may be otherwise unaffected. Entrained oil plume is likely to be increased resulting in greater spatial extent of entrained oil and may increase hydrocarbon concentrations in nearshore sediments.	The goal of this technique is to reduce oil reaching surface waters in order to lessen exposure of surface-dwelling organisms. Despite the considerable amount of research and experimental work completed since the Deepwater Horizon spill in 2010, efficacy of SSDI remains uncertain however (Quigg et al. 2021). SSDI may potentially provide a net environmental benefit where its use would be expected to reduce the volume of shoreline oiling in sensitive regions. Dispersant modelling undertaken for the loss of well containment scenario (CS-01) indicates that shoreline accumulation at 30 of 47 receptors (64%) would be reduced following the use of SSDI – see Table F – 1 in ANNEX F: Dispersant modelling results. The largest decreases are at predicted for Exmouth, Ningaloo Coast WH, MP and State MP (374 m ³ reduction) and Cape Range (288 m ³ reduction). At certain times SSDI may not provide an environmental benefit, for example, during coral spawning seasons due to coral larvae being highly sensitivity to dispersants (Negri et al, 2018). SSDI would only be permitted and/or appropriate where favourable metocean conditions are present, a net environmental benefit can be demonstrated e.g. minimising surface expression or shoreline accumulations, and where the plume would be predicted to remain within the pre-defined Zone of Application (ZoA) illustrated in Figure 2-6. The ZoA is based on the following criteria: 10 km from Commonwealth Marine Parks (excluding 'Multiple Use Zones') 10 km from State Marine Parks 10 km from Heritage List areas >20 m water depth 4 km from State Waters - Within the Mainland Australian EEZ - Avoiding sensitive reefs and shoals Due to the declining production levels as the Stickle 4H-1 well continues to age,	Potentially	Due to the surface and shoreline exposure predicted at RPAs, the use of SSDI is deemed a potentially appropriate response option if LOWC conditions are appropriate, application occurs within the ZoA and during appropriate seasons, and that a net environmental benefit can be demonstrated at the time of the incident.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
		release rates predicted for a loss of well containment event are comparatively low and will continue to reduce over the life of the well. The use of SSDI would therefore need to be assessed for appropriateness based on the release conditions in the event of a loss of well containment event as the dispersant may not be as effective if flow rates are slow and/or release pressures low. Under such conditions the addition of chemical dispersants to the water column may not provide a net environmental benefit.		
Surface dispersant application	Application of surface dispersant would likely reduce the volumes of hydrocarbons contacting sensitive surface receptors. Dispersant can also enhance biodegradation and may reduce VOCs in some circumstances therefore reducing potential health and safety risk to responders. Dispersant can increase dispersed/entrained hydrocarbons which can potentially have higher toxicity to biota in shallow water than naturally dispersed hydrocarbons. Subsurface oil plume likely to increase in size resulting in greater spatial extent of entrained oil. Entrained oil could potentially impact on sensitive shallow-water receptors e.g. corals, which otherwise may have been unaffected.	Surface dispersant application may potentially provide a net environmental benefit where its use would reduce the volume of shoreline oiling in sensitive regions. At certain times it may not provide an environmental benefit, for example, during coral spawning seasons due to coral larvae being highly sensitivity to dispersants (Negri et al, 2018). Modelling predicts that the spatial and temporal extent of floating oil reaching the required threshold ($>50 \text{ g/m}^2$) for surface dispersant to be effective is restricted to 1 km^2 (52 m^3) on day 3 only – see Figure 2-6. Thereafter, floating oil falls below the required minimum surface concentration. Use of surface dispersant would also only be permitted and/or only appropriate where favourable metocean conditions are present, a net environmental benefit can be demonstrated e.g. minimising shoreline accumulations, and where application is undertaken only within the pre-defined ZoA as illustrated in Figure 2-6. The ZoA is based on the following criteria: • 10 km from Commonwealth Marine Parks (excluding 'Multiple Use Zones') • 10 km from State Marine Parks • 10 km from Heritage List areas • $>20 \text{ m}$ water depth • 4 km from State Waters • Within the Mainland Australian EEZ • Avoiding sensitive reefs and shoals	Potentially	Due to the limited presence of oil at feasible response thresholds predicted by the modelling, the use of surface dispersant for this scenario may not be suitable. Should dispersant be considered appropriate for application during a real spill event, where surface oil reaches the minimum required threshold, this would only be acceptable within the pre-defined ZoA criteria as illustrated in Figure 2-6 and only where a net environmental benefit can be demonstrated at the time of the incident.
Mechanical dispersion	Mechanical dispersion involves the use of a vessel's prop wash and/or fire hose to target surface hydrocarbons to achieve dispersion into the water column. However, this technique is of limited benefit in an open ocean environment where wind and wave action are likely to deliver similar advantages.	Although the technique is feasible, any vessel used for mechanical dispersion activities would be contaminated by the hydrocarbon and could potentially cause secondary contamination of unimpacted areas when exiting the spill area. The decontamination of a vessel used for mechanical dispersion activities would result in additional quantities of oily waste requiring appropriate handling and treatment.	No	Given the limited benefit of mechanical dispersion over natural wind and wave action, secondary contamination and waste issues, this strategy is deemed unsuitable.
In-situ burning	In-situ burning is only effective where minimum slick thickness can be achieved and where calm metocean conditions can be ensured. Use of this technique would also cause an increase the release of atmospheric pollutants.	There is a limited window of opportunity in which this technique can be applied (prior to evaporation of the volatiles) which would be difficult to achieve.	No	The predicted low effectiveness associated with implementing an in-situ burning response outweigh the potential environmental benefit.
Containment and recovery	Containment and recovery has an effective recovery rate of 5-10% when a hydrocarbon encounter rate of 25-50% is achieved at BAOAC 4 and 5. It has the potential to reduce the magnitude, probability, extent, contact and accumulation of hydrocarbon on shorelines receptors when suitable encounter rates can be achieved. It also has the potential to reduce the magnitude and extent of contact with submerged receptors by removing oil before further natural entraining/dissolving of hydrocarbons occurs.	Modelling for an LOWC event predicts that the spatial and temporal extent of floating oil reaching the required minimum threshold ($>50 \text{ g/m}^2$) for containment and recovery to be feasible is restricted to 1 km^2 (52 m^3) on day 3 only – see Figure 2-6. Thereafter, floating oil falls below the required minimum surface concentration. In the event that the sea-state and weather conditions are suitable for safe operations, this response will be feasible.	Potentially	Containment and recovery would be an effective response technique where hydrocarbon thickness of BAOAC 4-5 with a 50-100% coverage of $100\text{-}200 \text{ g/m}^2$ is present. Modelling predicts that the spatial and temporal extent of floating oil reaching the required minimum threshold ($>50 \text{ g/m}^2$) for containment and recovery to be feasible is restricted to 1 km^2 on day 3 only.
Shoreline protection and deflection	Shoreline protection and deflection can be effective at preventing contamination of sensitive resources and can be used to corral oil into slicks thick enough to skim effectively.	If real-time monitor and evaluate and operational monitoring activities indicate surface hydrocarbons are moving toward shorelines, pre-emptive assessments of sensitive receptors at risk and existing TRPs will be utilised to guide shoreline protection and deflection operations, in agreement with WA DTMI (for Level 2/3 spills). Based on the deterministic modelling analysis for the fastest shoreline contact, accumulations at feasible response thresholds ($>100 \text{ g/m}^2$) are predicted at Exmouth, Ningaloo Coast WH and State MP on day 3 (1701 m^3). Deterministic modelling for the greatest spread of oil at $>100 \text{ g/m}^2$ predicts a maximum volume of 3432 m^3 at Exmouth, Ningaloo Coast WH and State MP on day 32. Protection strategies can be used for targeted protection of sensitive resources.	Yes	RPA's predicted to be contacted are based on modelling outputs and thus may differ under the prevailing conditions of a real event. If RPA's are deemed to be at risk, based on real-time modelling during a spill event, shoreline protection and deflection techniques will be employed to minimise hydrocarbon accumulations, provided a net environmental benefit can be demonstrated.

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
		Access to sensitive areas may cause more negative impact than benefit.		
Shoreline clean-up	Shoreline clean-up is an effective means of hydrocarbon removal from contaminated shorelines where coverage is at an optimum level of 250 g/m ² .	If real-time monitor and evaluate and operational monitoring activities indicate hydrocarbons will contact shorelines, pre-emptive assessments of sensitive receptors at risk, shoreline assessments and existing TRPs will be utilised to guide shoreline protection and deflection operations, in agreement with WA DTMI (for Level 2/3 spills). Based on the deterministic modelling analysis for the fastest shoreline contact, accumulations at feasible response thresholds (>100 g/m²) are predicted at Exmouth, Ningaloo Coast WH and State MP on day 3 (1701 m³). Deterministic modelling for the greatest spread of oil at >100 g/m² predicts a maximum volume of 3432 m³ at Exmouth, Ningaloo Coast WH and State MP on day 32. Through shoreline assessment, verify that sensitive sites will benefit from clean-up activities as the response itself may cause more negative impact than benefit through disturbance of habitats and species.	Yes	RPA's predicted to be contacted are based on modelling outputs and thus may differ under the prevailing conditions of a real event. If RPA's are at risk, based on real-time modelling during a spill event, shoreline clean-up techniques will be deployed to expedite clean-up of the impacted sites. Removal of hydrocarbons will help shorten the recovery window unless shoreline type is of a sensitive nature. This technique can help prevent remobilisation of hydrocarbon and impact on shorelines.
Oiled wildlife response	Oiled wildlife response is an effective response technique for reducing the overall impact of a spill on wildlife. This is mostly achieved through hazing to prevent additional wildlife from being contaminated and through rehabilitation of those already subject to contamination.	In the event that wildlife are at risk of contamination, oiled wildlife response will be undertaken in accordance with the Wildlife Response Operational Plan as and where required. In addition, any rehabilitation could only be undertaken by trained specialists. Response options may be limited to hazing to ensure the safety of response personnel.	Yes	This technique may prevent impact to and/or treat oiled wildlife providing net environmental benefit.

Table 4-2: Response technique evaluation – cargo tank loss of containment

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
Hydrocarbon: Pyrenees Crude				
Monitor and evaluate	Will be effective in tracking the location of the spill, predicting potential impacts and triggering further monitoring and response techniques as required. Monitoring techniques include: - Predictive modelling of hydrocarbons – used throughout spill. 'Ground-truthed' using the outputs of all other monitoring techniques. - Surveillance and reconnaissance to detect hydrocarbons and resources at risk – from outset of spill. - Pre-emptive assessment of sensitive receptors at risk – triggered once monitor and evaluate informs likely RPAs at risk.	Monitoring of a surface spill of Pyrenees Crude is a feasible response technique and outputs will be used to guide decision making on the use of other monitoring/response techniques and providing information to regulatory agencies including AMSA and WA DTMI. Practicable techniques that could be used for this scenario include predictive modelling and surveillance and reconnaissance. Modelling predicts impact of shoreline receptors at threshold, therefore, pre-emptive assessment of sensitive receptors at risk would be utilised if any sensitive shoreline receptors are deemed to be at risk of impact.	Yes	Monitoring the spill will be necessary to: - validate trajectory and weathering models - determine the location and state of the slick - provide forecasts of spill trajectory - determine appropriate response techniques - determine effectiveness of response techniques - confirm impact pathways to receptors - provide regulatory agencies with required information.
Source control via vessel SOPEP	Controlling the spill at source would be the most effective way to limit the quantity of hydrocarbon entering the marine environment.	A spill arising from a vessel collision will be instantaneous and source control will be limited to what the vessel or facility can safely achieve whilst responding to the incident.	Yes	Ability to stop the spill at source will be dependent upon the specific spill circumstances and whether or not it is safe for response personnel to access/isolate the source of the spill.
Surface dispersant application	Application of surface dispersant would likely reduce the volumes of hydrocarbons contacting sensitive surface receptors. Dispersant can also enhance biodegradation and may reduce VOCs in some circumstances therefore reducing potential health and safety risk to responders. Dispersant can increase dispersed/entrained hydrocarbons which can potentially have higher toxicity to biota in shallow water than naturally dispersed hydrocarbons. Subsurface oil plume likely to increase in size resulting in greater spatial extent of entrained oil. Entrained oil could potentially impact on sensitive shallow-water receptors e.g. corals, which otherwise may have been unaffected.	Surface dispersant application may potentially provide a net environmental benefit where its use would reduce the volume of shoreline oiling in sensitive regions. At certain times it may not provide an environmental benefit, for example, during coral spawning seasons due to coral larvae being highly sensitivity to dispersants (Negri et al, 2018). Modelling for a cargo tank loss of containment event predicts that floating oil will reach the required threshold (>50 g/m²) and remain below the maximum viscosity (10,000 cSt) for surface dispersant to be effective on days 1 and 2 only – see Figure 2-7. Thereafter, the modelling indicates that surface viscosity will increase above 10,000 cSt precluding effective surface dispersion and, additionally, that surface oil will start to move out of the ZoA and into State waters from day 1 of the spill. Whilst surface dispersant modelling undertaken for the cargo tank loss of containment scenario (CS-02) does not indicate a conclusive demonstration of reductions in shoreline accumulation (see Table F – 2 in ANNEX F: Dispersant modelling results), conditions during a real incident may differ greatly. Use of surface dispersant may be beneficial under specific circumstances e.g. where its use would assist in protecting seasonal coastal sensitivities. Use of surface dispersant would also only be permitted and/or only appropriate where favourable metocean conditions are present, a net environmental benefit can be demonstrated e.g. minimising shoreline accumulations, and where application is undertaken only within the pre-defined ZoA as illustrated in Figure 2-6. The ZoA is based on the following criteria: 10 km from Commonwealth Marine Parks (excluding 'Multiple Use Zones') 10 km from State Marine Parks 10 km from Heritage List areas >20 m water depth 4 km from State Waters - Within the Mainland Australian EEZ - Avoiding sensitive reefs and shoals	Potentially	Pyrenees Crude has relatively low volatility, with minimal evaporation and dispersion predicted, resulting in the surface spill thicknesses enough for dispersant to potentially be effective. Should dispersant be considered appropriate for application during a real spill event, this would only be acceptable where the surface slick is at a concentration of >50 g/m² and below the maximum viscosity of 10,000 cSt, within the pre-defined ZoA criteria as illustrated in Figure 2-7, and only where a net environmental benefit can be demonstrated at the time of the incident.
Mechanical dispersion	Mechanical dispersion involves the use of a vessel's prop wash and/or fire hose to target surface hydrocarbons to achieve dispersion into the water column. However, this technique is of limited benefit in an open ocean environment where wind and wave action are likely to deliver similar advantages.	Although the technique is feasible, any vessel used for mechanical dispersion activities would be contaminated by the hydrocarbon and could potentially cause secondary contamination of unimpacted areas when exiting the spill area. The decontamination of a vessel used for mechanical dispersion activities would result in additional quantities of oily waste requiring appropriate handling and treatment.	No	Given the limited benefit of mechanical dispersion over natural wind and wave action, secondary contamination and waste issues, this strategy is deemed unsuitable.
In-situ burning	In-situ burning is only effective where minimum slick thickness can be achieved and where calm metocean conditions can be ensured. Use of this technique would also cause an increase the release of atmospheric pollutants.	There is a limited window of opportunity in which this technique can be applied (prior to evaporation of the volatiles) which would be difficult to achieve.	No	The predicted low effectiveness associated with implementing an in-situ burning response outweigh the potential environmental benefit.
Containment and recovery	Containment and recovery has an effective recovery rate of 5-10% when a hydrocarbon encounter rate of 25-50% is achieved at BAOAC 4 and 5. It has the potential to reduce the magnitude, probability, extent, contact and accumulation of hydrocarbon on shorelines receptors when suitable encounter	Modelling of a surface spill of Pyrenees Crude predicts that floating oil may reach the required threshold (>50 g/m²) for containment and recovery to be feasible on days 1-6 of a cargo tank loss of containment event. In the event that the sea-state and weather conditions are suitable for safe operations,	Yes	Containment and recovery would be an effective response technique where floating hydrocarbons are present at a minimum of 50 g/m ² or at an optimum thickness of BAOAC 4-5 with a 50-100% coverage of 100-200 g/m ² .

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
	rates can be achieved. It also has the potential to reduce the magnitude and extent of contact with submerged receptors by removing oil before further natural entraining/dissolving of hydrocarbons occurs.	this response will be feasible.		Modelling predicts surface hydrocarbons to reach 50 g/m ² on days 1-6 of a cargo tank loss of containment event, thus this response strategy is considered effective.
Shoreline protection and deflection	Shoreline protection and deflection can be effective at preventing contamination of sensitive resources and can be used to corral oil into slicks thick enough to skim effectively.	If real-time monitor and evaluate and operational monitoring activities indicate surface hydrocarbons are moving toward shorelines, pre-emptive assessments of sensitive receptors at risk and existing TRPs will be utilised to guide shoreline protection and deflection operations, in agreement with WA DTMI (for Level 2/3 spills). Based on the deterministic modelling analysis, it is predicted that floating oil could contact the edge of Exmouth, Ningaloo Coast WH and State MP receptor (at a threshold of 10 g/m²) 0.2 days after a surface release has occurred. Deterministic modelling analysis predicts that 2029 m³ of shoreline accumulation could potentially occur within 1.5 days of a surface release at Exmouth, Ningaloo Coast WH and State MP in the run with the shortest timeframe to shoreline accumulation. Accumulation of 3571 m³ is predicted at Southern Pilbara – Shorelines at Ashburton from day 17 in the deterministic run with the largest spread of accumulations. Protection strategies can be used for targeted protection of sensitive resources. Access to sensitive areas may cause more negative impact than benefit.	Yes	RPAs predicted to be contacted are based on modelling outputs and thus may differ under the prevailing conditions of a real event. If RPAs are deemed to be at risk, based on real-time modelling during a spill event, shoreline protection and deflection techniques will be employed to minimise hydrocarbon accumulation providing net environmental benefit.
Shoreline clean-up	Shoreline clean-up is an effective means of hydrocarbon removal from contaminated shorelines where coverage is at an optimum level of 250 g/m ² .	If real-time monitor and evaluate and operational monitoring activities indicate hydrocarbons will contact shorelines, pre-emptive assessments of sensitive receptors at risk, shoreline assessments and existing TRPs will be utilised to guide shoreline protection and deflection operations, in agreement with WA DTMI (for Level 2/3 spills). Deterministic modelling analysis predicts that 2029 m³ of shoreline accumulation could potentially occur within 1.5 days of a surface release at Exmouth in the run with the shortest timeframe to shoreline accumulation. Accumulation of 3571 m³ is predicted at Southern Pilbara – Shorelines at Ashburton from day 17 in the deterministic run with the largest spread of accumulations. Shoreline clean-up can reduce or prevent impact on sensitive receptors in most cases. Through shoreline assessment, verify that sensitive sites will benefit from clean-up activities as the response itself may cause more negative impact than benefit through disturbance of habitats and species.	Yes	Response Protection Areas predicted to be contacted are based on modelling outputs and thus may differ under the prevailing conditions of a real event. If RPAs are at risk, based on real-time modelling during a spill event, shoreline clean-up techniques will be deployed to expedite clean-up of the impacted sites. Removal of hydrocarbons will help shorten the recovery window unless shoreline type is of a sensitive nature. This technique can help prevent remobilisation of hydrocarbon and impact on shorelines.
Oiled wildlife response	Oiled wildlife response is an effective response technique for reducing the overall impact of a spill on wildlife. This is mostly achieved through hazing to prevent additional wildlife from being contaminated and through rehabilitation of those already subject to contamination.	In the event that wildlife are at risk of contamination, oiled wildlife response will be undertaken in accordance with the Wildlife Response Operational Plan as and where required. In addition, any rehabilitation could only be undertaken by trained specialists. Response options may be limited to hazing to ensure the safety of response personnel.	Yes	This technique may prevent impact to and/or treat oiled wildlife providing net environmental benefit.

Table 4-3: Response technique evaluation – vessel collision (CS-03)

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
Hydrocarbon: MDO				
Monitor and evaluate	Will be effective in tracking the location of the spill, predicting potential impacts and triggering further monitoring and response techniques as required. Monitoring techniques include: - Predictive modelling of hydrocarbons – used throughout spill. 'Ground-truthed' using the outputs of all other monitoring techniques. - Surveillance and reconnaissance to detect hydrocarbons and resources at risk – from outset of spill. - Pre-emptive assessment of sensitive receptors at risk – triggered once monitor and evaluate informs likely RPAs at risk.	Monitoring of a surface spill of MDO is a feasible response technique and outputs will be used to guide decision making on the use of other monitoring/response techniques and providing information to regulatory agencies including AMSA and WA DTMI. Practicable techniques that could be used for this scenario include predictive modelling, surveillance and reconnaissance OM02) and monitoring of hydrocarbon presence in water. Modelling predicts impact of shoreline receptors at threshold, therefore, pre-emptive assessment of sensitive receptors at risk and monitoring of contaminated resources would be utilised if any sensitive shoreline receptors are deemed to be at risk of impact.	Yes	Monitoring the spill will be necessary to: - validate trajectory and weathering models - determine the location and state of the slick - provide forecasts of spill trajectory - determine appropriate response techniques - determine effectiveness of response techniques - confirm impact pathways to receptors - provide regulatory agencies with required information.
Source control via vessel SOPEP	Controlling the spill of diesel at source would be the most effective way to limit the quantity of hydrocarbon entering the marine environment.	A spill of diesel from a vessel collision will be instantaneous and source control will be limited to what the vessel or facility can safely achieve whilst responding to the incident.	Yes	Ability to stop the spill at source will be dependent upon the specific spill circumstances and whether it is safe for response personnel to access/isolate the source of the spill.
Surface dispersant application	Application of surface dispersant would likely reduce the volumes of hydrocarbons contacting sensitive surface receptors. Dispersant can also enhance biodegradation and may reduce volatile organic compounds (VOCs) in some circumstances therefore reducing potential health and safety risk to responders. Dispersant can increase dispersed/entrained hydrocarbons which can potentially have higher toxicity to biota in shallow water than naturally dispersed hydrocarbons. Subsurface oil plume likely to increase in size resulting in greater spatial extent of entrained oil. Entrained oil could potentially impact on sensitive shallow-water receptors e.g. corals, which otherwise may have been unaffected.	Whilst modelling for CS-03 predicts that floating oil will reach the minimum feasible threshold at which to commence surface dispersant application (>50 g/m²), this technique is not suitable for MDO spills as this hydrocarbon is prone to rapid spreading and evaporation and are not considered effective when applied on thin surface films such as MDO as the dispersant droplets tend to pass through the surface films without binding to the hydrocarbon resulting in the unnecessary addition of chemicals to the marine environment. The volatile nature of MDO is also likely to lead to unsafe conditions in the vicinity of fresh hydrocarbon thus this response technique is deemed inappropriate.	No	The application of dispersant to MDO is unnecessary as the diesel will rapidly evaporate and would thus unnecessarily introduce additional chemical substances to the marine environment. The additional entrainment would also increase exposure of subsea species and habitats to hydrocarbons.
Mechanical dispersion	Mechanical dispersion involves the use of a vessel's prop wash and/or fire hose to target surface hydrocarbons to achieve dispersion into the water column. However, this technique is of limited benefit in an open ocean environment where wind and wave action are likely to deliver similar advantages.	Although the technique is feasible, highly volatile hydrocarbons are likely to weather, spread and evaporate quickly. The volatile nature of the oil likely to lead to unsafe conditions in the vicinity of fresh hydrocarbon. Additionally, any vessel used for mechanical dispersion activities would be contaminated by the hydrocarbon and could potentially cause secondary contamination of unimpacted areas when exiting the spill area. The decontamination of a vessel used for mechanical dispersion activities would result in additional quantities of oily waste requiring appropriate handling and treatment.	No	Given the limited benefit of mechanical dispersion over natural wind and wave action, secondary contamination and waste issues, and the associated safety risk of implementing the response for this activity, this strategy is deemed unsuitable.
In-situ burning	In-situ burning is only effective where minimum slick thickness can be achieved.	Use of in-situ burning as a response technique for MDO is unfeasible as the minimum slick thickness cannot be attained due to rapid spreading. In addition, there is a limited window of opportunity in which this technique can be applied (prior to evaporation of the volatiles) which is unlikely to be achieved. Furthermore, entering a volatile environment to undertake this technique would be unsafe for response personnel and its used would unnecessarily cause an increase the release of atmospheric pollutants.	No	Diesel characteristics are not appropriate for the use of in-situ burning and would unnecessarily cause an increase the release of atmospheric pollutants.
Containment and recovery	Containment and recovery has an effective recovery rate of 5-10% when a hydrocarbon encounter rate of 25-50% is achieved at BAOAC 4 and 5 with a 50-100% coverage of 100 g/m ² to 200 g/m ² .	Whilst modelling predicts that floating oil will reach the minimum feasible threshold at which to commence containment and recovery (>50 g/m²), this technique is not suitable for MDO spills as it is prone to rapid spreading and evaporation and is deemed unsuitable for effective containment and recovery operations. The volatile nature of MDO is also likely to lead to unsafe conditions in the vicinity of	No	Containment and recovery would be an inappropriate response technique for a spill of MDO. Corralling a volatile hydrocarbon such as MDO is deemed unsafe for response personnel thus this response strategy is not considered feasible. In addition to the safety issues, most of the spilled diesel would have been subject to rapid evaporation prior to the commencement of containment

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
		the hydrocarbon thus this response technique is deemed inappropriate.		and recovery operations.
Shoreline protection and deflection	Shoreline protection and deflection can be effective at preventing contamination of at-risk areas.	Real-time monitor and evaluate activities will be used to track surface hydrocarbons moving towards shorelines. Where feasible, pre-emptive assessments of sensitive receptors at risk and existing TRPs will be utilised to guide shoreline protection and deflection operations, in agreement with WA DTMI (for Level 2/3 spills). Based on stochastic modelling, it is predicted that floating oil could contact the edge of both Exmouth, Ningaloo Coast WH and State MP and Gascoyne MP receptors (at a threshold of 10 g/m²) 0.2 days after a surface release has occurred. Modelling predicts that 202.1 tonnes of shoreline accumulation could potentially occur within 0.7 days of a surface release at Exmouth, Ningaloo Coast WH and State MP. Feasibility of deploying this technique prior to shoreline contact will be assessed based on real-time monitoring. Protection strategies can be used for targeted protection of sensitive resources. Access to sensitive areas may cause more negative impact than benefit.	Yes	The modelling undertaken for CS-03 predicts that shoreline receptors would be contacted by floating oil concentrations above 100 g/m². RPA's predicted to be contacted are based on modelling outputs and thus may differ under the prevailing conditions of a real event. For RPA's deemed to be at risk based on real-time modelling during a spill event, shoreline protection and deflection techniques will be employed to minimise hydrocarbon accumulation providing a net environmental benefit.
Shoreline clean-up	Shoreline clean-up is an effective means of hydrocarbon removal from contaminated shorelines where coverage is at an optimum level of 250 g/m ² .	Real-time monitor and evaluate activities will be used to indicate shorelines at risk of hydrocarbon contact. Pre-emptive assessments of sensitive receptors at risk, shoreline assessments and existing TRPs will be utilised to guide shoreline clean-up operations, in agreement with WA DTMI (for Level 2/3 spills). Modelling predicts that 202.1 tonnes of shoreline accumulation could potentially occur within 0.7 days of a surface release at Exmouth, Ningaloo Coast WH and State MP. Through shoreline assessment, verify that sensitive sites will benefit from clean-up activities as the response itself may cause more negative impact than benefit through disturbance of habitats and species.	Yes	The modelling undertaken for CS-03 predicts that shoreline receptors would be contacted by floating oil concentrations above 100 g/m². RPA's predicted to be contacted are based on modelling outputs and thus may differ under the prevailing conditions of a real event. If RPA's are at risk, based on real-time monitoring and modelling during a spill event, shoreline clean-up techniques will be deployed to expedite clean-up of the impacted sites. Removal of hydrocarbons will help shorten the recovery window unless shoreline type is of a sensitive nature. This technique can help prevent remobilisation of hydrocarbon and impact on shorelines.
Oiled wildlife response	Oiled wildlife response is an effective response technique for reducing the overall impact of a spill on wildlife. This is mostly achieved through hazing to prevent additional wildlife from being contaminated and through rehabilitation of those already subject to contamination.	In the event that wildlife are at risk of contamination, oiled wildlife response will be undertaken in accordance with the Wildlife Response Operational Plan as and where required. In addition, any rehabilitation could only be undertaken by trained specialists. Response options may be limited to hazing to ensure the safety of response personnel.	Yes	This technique may prevent impact to and/or treat oiled wildlife providing net environmental benefit.

5 HYDROCARBON SPILL ALARP PROCESS

Woodside's hydrocarbon spill ALARP process is aligned with guidance provided by NOPSEMA in *ALARP Guidance Note N-04300-GN0166* (2022) and *Oil Spill Risk Management Guidance Note N-04750-GN1488* (2024) and is set out in the 'Woodside Oil Spill Preparedness and Response Mitigation Assessment (OSPRMA) Guidelines'.

From the identified response planning need and pre-operational NEBA/SIMA, Woodside conducts a structured, semi-quantitative hydrocarbon spill process which has the following steps:

- It considers the Response Planning Need identified in terms of surface area (km²) and available surface hydrocarbon volumes (m³) against existing Woodside capability.
- It considers alternative, additional, and improved options for each response technique/control measure by providing an initial and, if required, detailed evaluation of:
 - predicted cost associated with adopting the control measure
 - predicted change/environmental benefit
 - predicted effectiveness/feasibility of the control measure.
- It evaluates the risks and impacts of implementing the proposed response techniques, and any further control measures with associated environmental performance to manage these additional risks and impacts.

Woodside considers the risks and impacts from a hydrocarbon spill to have been reduced to ALARP when:

- A structured process for identifying and considering alternative, additional, and improved options has been completed for each selected response technique.
- The analysis of alternate, additional, and improved control measures meets one of the following criteria:
 - all identified, reasonably practicable control measures have been adopted; or
 - no identified reasonably practicable additional, alternative and/or improved control measures would provide further overall increased proportionate environmental benefit; or
 - no reasonably practical additional, alternative, and/or improved control measures have been identified.
- Where an alternative, additional and/or improved control measure is adopted, a measurable level of environmental performance has been assigned.
- Higher order impacts/ risks have received more comprehensive alternative, additional, and improved control measure evaluations and do not just compare the cost of the adopted control measures to the costs of an extreme or unreasonable control measure.
- Cumulative effects have been analysed when considered in combination across the whole activity.

The response technique selection is based on the risk assessment conducted in the EP. The risk assessment identifies the type of oil, volume of release, duration of release, predicted fate, weathering and the EMBA (along with other requirements such as time to impact and predicted volumes ashore). Modelling is then used to inform the NEBA and the prioritisation of suitable response options. The scale of the response techniques selected in the pre-operational NEBA is informed through the assessment of results from deterministic modelling.

For the ALARP assessment, the following terms and definitions have been used:

- Response techniques are considered the control measures that reduce consequences from hydrocarbon spill events. The terms 'response technique' and 'control measure' are used interchangeably.
- Cost is defined as the time, effort and/or complexity of financial, safety, design/ storage/ installation, capital/ lease, and/or operations/ maintenance required to adopt a control measure.

- Environmental impact is the comparison against standard environmental values and sensitivities' impacts using positive or negative criteria from the NEBA Impact Ranking Classification Guidance in ANNEX A.

5.1 Monitor and evaluate

Monitor and evaluate includes the gathering and evaluation of data to inform the oil spill response planning and operations. It includes fate and trajectory modelling, spill tracking, weather updates and field observations. This response option is deployed in some capacity for every event.

Techniques may include:

- predictive modelling of hydrocarbons to assess resources at risk
- surveillance and reconnaissance to detect hydrocarbons and resources at risk
- pre-emptive assessment of sensitive receptors at risk.

Woodside maintains an *Operational Monitoring Operational Plan*. If shoreline contact is predicted, RPAs will be identified and assessed before contact. This plan includes the process for the IMT to mobilise resources depending on the nature and scale of the spill.

The proximity of Exmouth, Onslow and Dampier to the spill event location means that multiple logistical options are available to monitor the spill in relatively short timeframes. The primary mobilisation base for initial monitor and evaluate activities would be Exmouth. However, in the unlikely event of an extended spill with potential to impact receptors further afield, monitoring activities may also be mobilised from Dampier.

5.1.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which a response need can be based:

CS-01 – Loss of Well Control	CS-02 – Topside release	CS-03 – MDO release
• Floating surface oil in sufficient concentrations for effective monitor and evaluate operations ($>10 \text{ g/m}^2$) is expected within 0.2 days at Gascoyne MP and Exmouth, Ningaloo Coast WH and State MP. • The shortest timeframe that shoreline contact from floating oil at concentrations of 100 g/m^2 is predicted at Exmouth, Ningaloo Coast WH and State MP on day 3 ($1,701 \text{ m}^3$). • The time to contact for entrained oil at concentrations of greater than 100 ppb is 0.6 days (15 hours) at Gascoyne MP.	• Floating surface oil in sufficient concentrations for effective monitor and evaluate operations ($>10 \text{ g/m}^2$) is expected within 0.2 days at Exmouth, Ningaloo Coast WH and State MP. • The shortest timeframe that shoreline contact from floating oil at concentrations of 100 g/m^2 predicted is 1.5 days at Exmouth, Ningaloo Coast WH and State MP ($2,029 \text{ m}^3$). • The time to contact for oil at concentrations of entrained hydrocarbons greater than 100 ppb is 0.2 days at Exmouth, Ningaloo Coast WH and State MP.	• Floating surface oil in sufficient concentrations for effective monitor and evaluate operations ($>10 \text{ g/m}^2$) is expected within 0.2 days at Gascoyne MP and Exmouth, Ningaloo Coast WH and State MP. • The shortest timeframe that shoreline contact from floating oil at concentrations of 100 g/m^2 predicted is 0.7 days at Ningaloo/ Muiron Islands/ reserves/ reefs (202 tonnes). • The time to contact for oil at concentrations of entrained hydrocarbons greater than 100 ppb is .2 days at Exmouth, Ningaloo Coast WH and State MP.
• Pre-emptive assessment and shoreline assessments will be mobilised to RPAs with shoreline contact in agreement with WA Department of Transport and Major Infrastructure. • Arrangements for support organisations who provide specialist services or resources should be tested regularly. • Plans, procedures and support documents need to be in place for Operational and Support Sections. These should be reviewed and updated regularly. • The duration of the spill may extend up to 69 days with response operations extending to 4-5 months based on the predicted time to complete shoreline clean-up operations.		

5.1.2 Environmental performance based on need

Table 5-1: Environmental Performance – Monitor and evaluate

Environmental Performance Outcome		To gather information from multiple sources to establish an accurate common operating picture as soon as possible and predict the fate and behaviour of the spill to validate planning assumptions and adjust response plans as appropriate to the scenario.		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
1	Oil spill trajectory modelling	1.1	Initial modelling available within 6 hours using the Rapid Assessment Tool.	1, 3B, 3C, 4
		1.2	Detailed modelling available within 4 hours of RPS receiving information from Woodside.	
		1.3	Detailed modelling service available for the duration of the incident upon contract activation.	
2	Tracking buoy	2.1	Tracking buoy located on facility/ lead vessel and ready for deployment 24/7.	1, 3A, 3C, 4
		2.2	Deploy tracking buoy from facility/ lead vessel within 2 hours as per the First Strike Plan.	1, 3A, 3B, 4
		2.3	Contract in place with service provider to allow data from tracking buoy to be received 24/7 and processed.	1, 3B, 3C, 4
		2.4	Data received to be uploaded into Woodside COP daily to improve the accuracy of other monitor and evaluate techniques.	1, 3B, 4
3	Satellite imagery	3.1	Contract in place with 3 rd party provider to enable access and analysis of satellite imagery. Imagery source/type requested on activation of service.	1, 3C, 4
		3.2	3 rd party provider will confirm availability of an initial acquisition within 2 hours.	1, 3B, 3C, 4
		3.3	First image received within 24 hours of Woodside confirming to 3 rd party provider its acceptance of the proposed acquisition plan.	1
		3.4	3 rd party provider to submit report to Woodside per image. Report is to include a polygon of any possible or identified slick(s) with metadata.	1
		3.5	Data received to be uploaded into Woodside COP daily to improve accuracy of other monitor and evaluate techniques.	1, 3B, 4
		3.6	Satellite Imagery services available and employed during response.	1, 3C, 4
4	Aerial surveillance	4.1	2 trained aerial observers available to be deployed within 24 hours from resource pool.	1, 2, 3B, 3C, 4
		4.2	1 aircraft available for two sorties per day, available for the duration of the response from day 1.	1, 3C, 4
		4.3	Observer to compile report during flight as per First Strike Plan. Observers report available to the IMT within 2 hours of landing after each sortie.	1, 2, 3B, 4
		4.4	Unmanned Aerial Vehicles/Systems (UAV/UASs) to support SCAT, containment and recovery and surface dispersal and pre-emptive assessments as contingency if required.	1, 2
5	Pre-emptive assessment of sensitive receptors	5.1	Within 24 hours, in liaison with WA DTMI (for Level 2/3 incidents), deployment of 1 specialist(s) from resource pool in establishing the status of sensitive receptors.	1, 2, 3B, 3C, 4
		5.2	Daily reports provided to CIMT on the status of the receptors to prioritise Response Protection Areas (RPAs) and maximise effective utilisation of resources.	1, 3B, 4

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

The control measures and capability of Woodside and its third-party service providers are shown to support monitor and evaluate activities up to and including the identified WCCS. This is demonstrated by the following:

- Woodside has a documented, structured and tested capability for monitor and evaluate operations including internal trajectory modelling capabilities, tracking buoys located offshore and contracted aerial observation platforms with access to trained observers.
- Woodside and its third-party service providers seek to maintain sufficient capability for the duration of the response.
- Woodside has assessed the existing capability available and considered potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.1.

5.2 Source Control via Vessel SOPEP

Vessel source control will be conducted, where feasible and in accordance with MARPOL 73/78 Annex I, by the Vessel Master under the Shipboard Oil Pollution Emergency Plan (SOPEP) triggered by any loss of containment from the PAP vessels.

The SOPEP provides guidance to the Master and Officers on board the vessel with respect to the extra steps to be taken when an unexpected pollution incident has occurred or is likely to occur. The SOPEP contains all information and operational instructions required by IMO Resolution MEPC.54 (32) adopted on 6 March 1992, as amended by resolution MEPC.86 (44) adopted on 13 March 2000.

Its purpose is to set in motion the necessary actions to stop or minimise oil discharge and mitigate its effects and outlines responsibilities, pollution reporting requirements, procedures and resources needed in the event of a hydrocarbon spill from vessel activities.

In the event of the WCCS vessel collision event, the vessel master may engage precautionary marine manoeuvres to avoid collision or commence pumping operations to transfer MDO and thus minimise the release.

5.2.1 Environmental performance based on need

Woodside has established control measures, environmental performance outcomes, performance standards and measurement criteria to be used for vessel-source oil spill response during the PAP which are detailed in Section 6.8 of the EP. The vessel master's roles and responsibilities are described in EP Section 7.3.

Performance standards for each contracted PAP vessel are detailed in the vessel's specific SOPEP.

These standards maintain availability of sufficient resources and are adequately tested for successful implementation of the SOPEP in the event of a hydrocarbon spill.

5.3 Source control and well intervention

The worst-case scenario for a loss of well containment is considered to be loss of well control during operations due to a 'tree off' scenario. This scenario would result in an uncontrolled flow of dry gas from the well as outlined in the EP. In the event of a loss of well containment, the primary response would be source control and well intervention.

The Woodside IMT is able to mobilise resources for Xmas Tree intervention, Subsea First Response Toolkit (SFRT) support, and capping support and relief well drilling. Woodside has pre-identified vessel specifications and contracts required for SFRT debris clearance work and monitors the availability and location of these vessels.

Woodside is a signatory to a MoU between Australian offshore operators to provide mutual aid to facilitate and expedite mobilising a MODU and drilling a relief well if a loss of well containment incident were to occur. The MoU commits the signatories to share rigs, equipment, personnel and services to assist another operator in need. A moored MODU, for the relief well construction, has been used as the basis for the analysis within this document.

Source control operations cannot be implemented if the safety of response personnel cannot be guaranteed. Circumstances that limit the safe execution of this control measure include lower explosive limit (LEL) concentrations, volatile concentrations of hydrocarbons in the atmosphere, weather window, waves and/or sea states (>1.5m waves) and high ambient temperatures.

5.3.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which a response need can be based:

- Prior to any source control activities, Woodside will implement protocols seeking to ensure that the site is safe including subsea ROV surveys and surface air monitoring.
- Hydrocarbons will flow from the well until one of the following interventions can be made:
 - direct intervention by ROV to close Xmas tree
 - well intervention is performed to isolate the well
 - a capping stack is in place.
 - a relief well is drilled and first attempt at well kill within 69 days.
- Arrangements for support organisations who provide specialist services or resources should be tested regularly.
- Plans, procedures and support documents need to be in place for Operational and Support functions. These should be reviewed and updated regularly.
- The duration of the release may be up to 69 days with response operations completing in month 4-5 based on the predicted time to complete shoreline clean-up operations.

In addition, a number of assumptions are required to estimate the response need for source control. These assumptions have been described in the table below.

Table 5-2: Response Planning Assumptions – Source Control

Response planning assumptions	
Safety considerations	Source control operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site, in accordance with the Woodside Management System (WMS). Personnel safety issues may include: • hydrocarbon gas and/or liquid exposure • high winds, waves and/or sea states • high ambient temperatures.
Feasibility considerations	Woodside's source control options would be ROV intervention and capping stack deployment. Relief well drilling operations may be needed to provide an option to permanently abandon the well after the well flow is stopped. The following approaches outline Woodside's hierarchy approach for selecting suitable MODU's for relief well operations; • primary – review internal drilling programs and MODU availability to source appropriate rig(s) operating within Australia with an approved Safety Case • alternate – source and contract MODUs through Australian Energy Producers (AEP) Memorandum of Understanding (MoU) that is operating within Australia with an approved Safety Case • contingency – source and contract a MODU outside Australia with an approved Australian Safety Case.

5.3.2 Environmental performance based on need

Table 5-3: Environmental Performance – Source Control

Environmental Performance Outcome		To stop the flow of hydrocarbons into the marine environment		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
6	Subsea First Response Toolkit (SFRT)	6.1	Oceanengineering support staff available all year round, via contract, to assist with the mobilisation, deployment, and operation of the SFRT equipment.	1, 3B, 3C
		6.2	Intervention vessel with minimum requirement of a working class ROV and operator.	1, 3C
		6.3	Mobilised to site for deployment within 11 days.	1, 3B, 3C
		6.4	Open communication line to be maintained between IMT and infield operations to ensure awareness of progress against plan(s).	1, 3A, 3B
7	Well intervention	7.1	Frame agreements with ROV providers in place to be mobilised upon notification. ROV equipment deployed within 7 days.	1, 3B, 3C
		7.2	Source control vessel will have the following minimum specifications: - active heave compensated crane, rated to at least 150 T in shallower water and 250 T in deeper water. - at least 90 m in length - deck has water/electricity supply - deck capacity to hold at least 110 T of capping stack.	1, 3B, 3C
		7.3	Identify source control vessel availability within 24 hours and begin contracting process. Vessel mobilised to site for deployment within 16 days for conventional capping.	1, 3B, 3C
		7.4	Well intervention attempt made using ROV and SFRT within 11 days.	1, 3B, 3C
		7.5	Capping stack on suitable vessel mobilised to site within 16 days. Deployment and well intervention attempt will be made once safety and metocean conditions are suitable.	1, 3C
		7.6	Contract in place for access to equipment and staff to assist with the mobilisation, deployment, and operation of the capping stack and well intervention equipment.	1, 3B, 3C
		7.7	MODU mobilised to site for relief well drilling within 21 days.	1, 3C
		7.8	First well kill attempt completed within 69 days.	1, 3B, 3C
		7.9	Open communication line(s) to be maintained between IMT and infield operations to ensure awareness of progress against plan(s).	1, 3A, 3B
		7.10	Monthly monitoring of the availability of MODUs through existing market intelligence including current Safety Case history.	3C
8	Support vessels	8.1	Access to 24/7 vessel tracking software to monitor availability of suitable vessels to meet specifications for source control.	3C
		8.2	Vessel frame agreements require suitable vessels to maintain in-force Safety Case approvals covering ROV operations and provide support in the event of an emergency.	1, 3B, 3C
		8.3	MODU and vessel contracts include clause outlining requirement for support in the event of an emergency	1, 3C
9	Safety case	9.1	Woodside will prioritise MODU or vessel(s) for intervention work(s) that have an existing Safety Case.	1, 3C
		9.2	Woodside Planning, Logistics, and Safety Officers (on-roster/ call 24/7) to assist in expediting the Safety Case assessment process as far as practicable.	1, 3C

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Environmental Performance Outcome		To stop the flow of hydrocarbons into the marine environment		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
		9.3	Woodside will maintain minimum safe operating standards that can be provided to MODU and vessel operators for Safety Case guidance.	1, 3C

The resulting source control capability has been assessed against the WCCS. The range of techniques provide a feasible and viable approach to well intervention and, if necessary, relief well drilling operations to stop the well flowing.

The health and safety, financial, capital and operations/maintenance costs of implementing the alternative, additional or improved control measures identified and not carried forward are considered disproportionate to the insignificant environmental benefit gained and/or not reasonably practicable for this PAP.

Woodside has assessed the existing capability available and considered potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.3.

5.4 Subsea Dispersant Injection

Subsea dispersant injection involves the deployment of a subsea dispersant manifold with associated equipment to inject chemical dispersant directly into the oil plume in the event of a loss of well containment. As it may take some time to mobilise subsea dispersant equipment, surface dispersants may be used in the interim to treat oil that makes it to the surface.

The use of subsea dispersants has similar benefits to surface dispersant application including a potential reduction in the volume of hydrocarbons that reach the shoreline thereby reducing impacts to sensitive receptors. In addition to these benefits, subsea dispersant application may reduce volatile organic compound (VOC) levels during surface response operations, reducing risks and hazards to responders. At certain times it may not provide an environmental benefit, for example, during coral spawning seasons due to coral larvae being highly sensitivity to dispersants (Negri et al, 2018).

SSDI would only be permitted and/or appropriate where favourable metocean conditions are present and where the plume would be predicted to remain within the pre-defined ZoA illustrated in Figure 2-6 and Section 4 of the Pyrenees Operations Oil Pollution First Strike Plan. The ZoA is based on the following criteria:

- 10 km from Commonwealth Marine Parks (excluding 'Multiple Use Zones')
- 10 km from State Marine Parks
- 10 km from Heritage List areas
- >20 m water depth
- 4 km from State Waters
- Within the Mainland Australian EEZ
- Avoiding sensitive reefs and shoals

Due to the declining production levels as the Stickle 4H-1 well continues to age, release rates predicted for a loss of well containment event are comparatively low and will continue to reduce over the life of the well. The use of subsea dispersant injection would therefore need to be assessed for appropriateness based on the release conditions in the event of a loss of well containment event as the dispersant may not be as effective if flow rates are slow and/or release pressures low. Under such conditions the addition of chemical dispersants to the water column may not provide a net environmental benefit. Where SSDI is deemed appropriate, Woodside will monitor the effectiveness of the ongoing operation via water column monitoring in accordance with the Woodside OSM-BIP, Joint Industry OSM Framework (APPEA, 2021) and OMP: Subsea dispersant injection effectiveness assessment (APPEA, 2021).

The *Subsea Dispersants Operational Plan* details the mobilisation and resource requirements for dispersant operations including the logistics, support and facility arrangements to manage the movement of personnel and resources.

5.4.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which a response need can be based:

- The maximum volume of subsea hydrocarbons released is predicted to be approximately 429 m³ per day for 69 days until the well is killed.
- Ability to treat a large proportion of the daily hydrocarbon release volumes.
- A subsea dispersant injection system with sufficient coiled tubing for water depth.
- Arrangements for support organisations who provide specialist services, including subsea plume monitoring, or resources should be tested regularly.
- Plans, procedures and support documents need to be in place for Operational and Support Sections. These should be reviewed and updated regularly.
- The duration of the spill may extend up to 69 days with response operations extending to 4-5 months based on the predicted time to complete shoreline clean-up operations.

In addition, a number of assumptions are required to estimate the response need for Subsea Dispersant Injection. These assumptions have been described in the table below.

Table 5-4: Response Planning Assumptions – Subsea Dispersant Injection

Response Planning Assumptions	
Safety considerations	Subsea dispersant operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site. Personnel safety issues may include: • hydrocarbon gas and/or liquid exposure • high winds, waves and/or sea states • high ambient temperatures.
Technique	Application parameters⁷
Subsea Dispersant Injection	The predicted performance range for SSDI is based on: • total rate of subsea released oil available for SSDI • subsea inspection (ROV) observing oil release and technique safe for deployment • dispersant to oil application at 1:60-1:100 (used to determine the volume of dispersant required) • predicted dispersant effectiveness of 80% of contacted subsea oil (based upon industry research).
SSDI operation	1 SSDI operation includes: 1 suitable vessel (specifications as per SFRT and Subsea Dispersant Injection Operational Plan) • subsea dispersant delivery system • work class ROV with ancillaries and hydraulic power unit (HPU) • dispersant pump • down hole line/ coiled tubing • trained ROV operator(s) • trained subsea specialists • water column monitoring sensors.
Dispersant delivery (per operation)	Lower – 60 m³ per 24 hours Upper – 75 m³ per 24 hours
Dispersant Effectiveness	Dispersant testing on Pyrenees Crude (Victoria Department of Jobs, Skills, Industry and Regions (DJSIR) [formerly Department of Primary Industries], 2004) indicates that average dispersant efficiency (%) for oil age will be; • 71% (0 hrs) • 74.5% (24hrs) This data is based on weathering results for fresh and 24-hour aged crude and five different dispersants.

⁷ Performance ranges outlined are indicative for response planning purposes. Where actual figures and concentrations exist based on deterministic modelling or laboratory results, these will be used for response and capability planning.

5.4.2 Environmental performance based on need

Table 5-5: Environmental Performance – Subsea Dispersant Injection

Environmental Performance Outcome		To reduce consequences to surface and shoreline receptors and increase the bioavailability of hydrocarbons for microbial breakdown.		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
10	Subsea spraying	10.1	Contract in place to provide Subsea Dispersant equipment resources (via SFRT)	1, 3B, 3C, 4
		10.2	Oceaneering support staff available all year round, via contract, to assist with the mobilisation, deployment, and operation of the SFRT equipment.	
		10.3	Subsea Dispersant vessel will have the following minimum specifications: - Compensated seabed crane up to 36 mt - Mobilised to site for deployment within 12 days.	1, 3A, 3C, 4
		10.4	Per day dispersant log completed to record quantity of dispersants applied	1, 3A, 3B
		10.5	Contract in place to provide SSDI and debris clearance equipment and trained personnel	1, 3B, 3C, 4
		10.6	Contract in place to provide water column monitoring equipment and trained personnel.	1, 3B, 3C, 4
11	Support vessels	11.1	Access to 24/7 vessel tracking software to monitor availability of suitable vessels to meet specifications for subsea dispersant injection.	3C, 4
		11.2	Vessel frame agreements require suitable vessels to maintain in-force Safety Case approvals covering ROV operations and provide support in the event of an emergency.	1, 3B, 3C
12	Dispersant	12.1	Year-round access to 5,000 m ³ of dispersant located globally which is ready to be mobilised within 48 hours under activation of GDS membership.	1, 3A, 3B, 3C, 4
		12.2	Year-round access to additional dispersant stockpiles via memberships with OSRL and AMOSC.	
13	Management of environmental risks	13.1	Approved dispersants prioritised for surface and subsea use	1
		13.2	Subsea dispersant injection efficacy monitoring will be conducted in accordance with the Woodside OSM-BIP and OM4: Dispersant Effectiveness and Fate Assessment (APPEA, 2021)	1, 3A, 3B, 3C

The resulting subsea dispersant injection capability has been assessed against the WCCS. The maximum volume of subsea hydrocarbon released is estimated to be approximately 429 m³ per day until the well is killed.

Dispersant efficacy testing confirms that the Pyrenees Crude is predicted to be amendable to dispersant use with an approximate range of 71-74.5% effectiveness (Victoria DJSIR [formerly Department of Primary Industries], 2004).

As described in Table 4-1 and Section 5.4, use of SSDI will only be appropriate under certain conditions. If deemed appropriate during a real loss of well containment event, the SSDI capability currently available provides the capacity to treat 3,000 m³ to 7,500 m³ of subsea hydrocarbons per day with the application of 60-75 m³/day of dispersant by Day 12. The release rates indicate the Pyrenees wells are within this range and therefore the SSDI is considered a potential response technique for the subsea loss of well control scenarios where appropriate plume and release conditions are met, the plume would remain within the ZoA and a net environmental benefit can be demonstrated. If these conditions are met the available capability is deemed sufficient.

Under optimal conditions, during the subsea release period, the capability available meets the need identified and indicates that the subsea dispersant capability has the following expected performance(s):

- entrained hydrocarbon concentrations in the water column are predicted to increase at most subsurface receptor locations, with dispersant application from the trapping of treated entrained hydrocarbons at a lower depth (from subsea dispersant application) due to the greatly reduced droplet size and therefore reduced buoyancy.
- under some circumstances the application of subsea dispersant may reduce the maximum local concentrations and maximum accumulated volumes at shoreline receptors predicted to be contacted by floating hydrocarbons. Subsea dispersant modelling results are included in Table E - 1 in ANNEX F: Dispersant modelling results..
- the scope of the Frame Agreement Vessel Safety Case includes a range of subsea activities that would cover the requirement for SSDI operations such as subsea manifold installation, commissioning, cargo transfer (including bulk liquids), operating as a stable platform for activities including ROV operations, and accommodation support alongside or within the 500 m safety zone of an existing facility which may be in production.
- an SSDI vessel can be activated and mobilised within 12 days. Detailed breakdown of this timing is included in Section 6.4. Whilst Woodside will make every endeavour to accelerate the activities to reduce this timeframe, Woodside believes that the timeframe outlined is appropriate and realistic to ensure these activities can be completed reliably.
- Woodside has assessed the existing capability available and considered potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.4.

5.5 Surface Dispersant Application

Surface dispersant application may reduce surface hydrocarbons and therefore can prevent, or reduce the scale of, shoreline contact. Priority would be placed on treating high volume surface hydrocarbons closest to the release location as this is where high surface concentrations are predicted, and dispersant application is expected to achieve the greatest environmental benefit (refer to ANNEX A).

At certain times its use may not provide an environmental benefit, for example, during coral spawning seasons due to coral larvae being highly sensitivity to dispersants (Negri et al, 2018).

Surface dispersant application would only be permitted and/or appropriate where favourable metocean conditions are present and where the plume would be predicted to remain within the pre-defined Zone of Application (ZoA) illustrated in Figure 2-7 and Section 4 of the Pyrenees Operations Oil Pollution First Strike Plan. The ZoA is based on the following criteria:

- 10 km from Commonwealth Marine Parks (excluding 'Multiple Use Zones')
- 10 km from State Marine Parks
- 10 km from Heritage List areas
- >20 m water depth
- 4 km from State Waters
- Within the Mainland Australian EEZ
- Avoiding sensitive reefs and shoals

Weathering of the hydrocarbons would reduce dispersant efficacy. During a protracted response, surface hydrocarbons may become heavily weathered, viscosity may increase above feasible treatment levels (10,000 cSt) or, alternatively, may spread below effective response thresholds. Surface dispersant application is weather and sea-state dependent. Periods of downtime can be expected.

Where surface dispersant application is deemed appropriate, Woodside will conduct dispersant effectiveness monitoring in accordance with the Woodside OSM-BIP, Joint Industry OSM Framework (APPEA, 2021) and OMP: Surface chemical dispersant fate and effectiveness assessment (APPEA, 2021). This assessment is conducted after the initial shake jar test or aerial test spray and is based on the SMART protocol (NOAA, 2006).

The *Surface Dispersant Operational Plan* details the mobilisation and resource requirements for dispersant operations including the logistics, support and facility arrangements to manage the movement of personnel and resources.

5.5.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which response need is based for each scenario:

CS-01 – Loss of Well Control	CS-02 – Topside release
The following statements identify the key parameters upon which response need is based: • Surface hydrocarbons with threshold concentrations suitable for surface dispersant application (>50 g/m²) are predicted on day 3 only, totalling 52 m³. This would amount to ~28 m³ post weathering. • Peak surface area of 1 km² is predicted on day 3.	The following statements identify the key parameters upon which response need is based: • Surface hydrocarbons within threshold concentration (>50 g/m²) and viscosity parameters (<10,000 cSt) available for surface dispersant application are predicted to peak at 48 km² with a peak surface expression of 3234 m³ on day 1 (deterministic model: Q1, Run 47). This would amount to ~1759 m³ post weathering. • Surface hydrocarbons are predicted to move into State waters on day 1 and would increase above 10,000 cSt maximum treatable viscosity by the end of day 2.
• The duration of the spill may extend up to 69 days (CS-01) with response operations extending to 4-5 months based on the predicted time to complete shoreline clean-up operations. • Surface dispersant application is not appropriate for spills of MDO (CS-03). • Arrangements for support organisations who provide specialist services (dispersant spray aircraft, logistics services for mobilising dispersant and Air Attack Supervisors) or resources (dispersants and transfer pumping systems) and	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

should be tested regularly. A no-notice-drill was held in October 2024 during which Woodside's large aircraft and dispersant contractor confirmed its ability to mobilise a large aircraft (with dispersant) from Malaysia to three different airports in Western Australia within the committed 48 hour timeframe. The drill included time for fuelling, dispersant loading, flight plan permits, submissions and approvals.

- Plans, procedures and support documents need to be in place for Operational and Support Sections. These should be reviewed and updated regularly.
- Defined Zone of Application (ZoA) to reduce environmental consequences on subsea receptors – see Figure 2-6 and Figure 2-7. The broader ZoA is also included in Section 4 of the Pyrenees Operations Oil Pollution First Strike Plan.

A number of assumptions are required to estimate the response need for surface dispersant application. These assumptions have been described in the table below.

Table 5-6: Response Planning Assumptions – Surface Dispersant Application

Response Planning Assumptions	
Safety considerations	Surface dispersant operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site. Personnel safety issues may include: • hydrocarbon gas and/or liquid exposure • high winds, waves and/or sea states • high ambient temperatures.
Technique	Application parameters ⁸
Surface Dispersant Application (combined vessel and aircraft)	The predicted performance range for surface dispersant application is based on; • remaining surface oil available for surface dispersant application following weathering, • monitor and evaluate operations observing surface oil at minimum BAOAC 4 (discontinuous true oil colour) or BAOAC 5 (continuous true oil colour), • safe for deployment, within range of vessels and aircraft, • dispersant to oil application at 1:20-1:25 (based on uniform surface oil 100 g/m² and 50 litres/ hectare application rate) allows for 3-4 km² per aircraft per day, • predicted dispersant effectiveness of 71-74.5% for contacted surface oil, and • spraying encounter rate of approximately 50-75% (50-25% of dispersant sprayed does not contact surface oil)
Physical properties	Surface threshold: • Lower – 50 g/m² (equates to 100 g/m² with approximately 50% coverage and/or 200 g/m² with approximately 25% coverage) • BAOAC 4 – Discontinuous true oil colour – lower threshold 50 g/m² • Optimum – 100 g/m² (equates to >100 g/m² with approximately 100% coverage and/or 200 g/m² with approximately 50% coverage) • BAOAC 5 – Continuous true oil colour – lower threshold 200 g/m² Viscosity: • Optimum – <5000 cSt at sea surface temperature • Upper – 10,000 cSt at sea surface temperature
Dispersant Effectiveness	Dispersant testing on Pyrenees Crude (Victoria DJSIR [formerly Department of Primary Industries], 2004) indicates that average dispersant efficiency (%) for oil age will be; • 71% (0 hrs) • 74.5% (24hrs) This data is based on weathering results for fresh and 24-hour aged crude and five different dispersants.

⁸ Performance ranges outlined are indicative for response planning purposes. Where actual figures and concentrations exist based on deterministic modelling or laboratory results, these will be used for response and capability planning.

5.5.2 Environmental performance based on need

Table 5-7: Environmental Performance – Surface Dispersant Application

Environmental Performance Outcome		To reduce consequences to surface and shoreline receptors and increase the bioavailability of hydrocarbons for microbial breakdown.		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
14	Aerial spraying	14.1	1 aircraft with minimum payload of 1850 litre payload mobilised to site within 4 hours of activation. 1 additional aircraft mobilised to site within another 20 hours of activation. 2 additional aircraft mobilised to site within 48 hours of activation.	1, 3B, 3C, 4
		14.2	1 high-capacity aircraft with minimum payload of 10 m ³ available to spray within 48 hours.	
		14.3	Small capacity aircraft to complete a minimum of 3 sorties per day and high-capacity aircraft to complete a minimum of 2 sorties per day.	1
		14.4	Per sortie spray log completed to record where dispersants were applied.	1, 3A, 3B
15	Vessel spraying	15.1	2 offtake support vessels from integrated fleet will undertake dispersant trials within 24 hours of the release as per first strike plan.	1, 3A, 3B, 3C, 4
		15.2	2 offtake support vessels will be available for deployment to spray dispersant for the duration of the response.	3A, 3C, 4
		15.3	Up to 2 vessels spraying per day within 48 hours. An additional 2 vessels spraying within 72 hours.	1, 3C
		15.4	Per day spray log completed to record where dispersants were applied	1, 3A, 3B
16	Dispersant	16.1	Year-round access to 5000 m ³ of dispersant located globally which is ready to be mobilised on activation of GDS membership within 24-48 hours.	1, 3A, 3B, 3C, 4
		16.2	Year-round access to additional dispersant stockpiles via memberships with OSRL and AMOSC.	
17	Management of Environmental Risks	17.1	Surface dispersants will only be applied in the Zone of Application and on BAOAC 4 and 5 oil.	1
		17.2	Approved dispersants prioritised for surface and subsea use	
		17.3	Surface dispersant efficacy monitoring will be conducted in accordance with the Woodside OSM-BIP and OM4: Dispersant Effectiveness and Fate Assessment (AEP, 2021)	1, 3A, 3B, 3C

The resulting surface dispersant response capability following ALARP evaluation has been assessed against the WCCS and surface release scenario.

- Surface concentration, viscosity and mass vary for each time step based on spreading and weathering algorithms within the model. Woodside has reviewed the deterministic modelling data for the applicable scenarios (CS-01 and CS-02) to determine the response need and required capability for surface dispersant application as a response technique (see Figure 2-6 and Figure 2 7).
 - For the subsea release scenario (CS-01 – loss of well containment), deterministic modelling predicts that there will be minor volumes (peak surface volume of 52 m³ and area of 1 km² on day 3 only) of surface hydrocarbons for surface dispersant application operations to treat – see Figure 2-6. Woodside's existing capability is sufficient to treat the expected surface hydrocarbons throughout the incident.
 - For the surface release (CS-02 – cargo tank loss of containment), deterministic modelling predicts that there will be surface hydrocarbons at feasible concentrations (>50 g/m²) and viscosities (<10,000 cSt) on day 1 and 2 of the spill only – see Figure 2 7. Thereafter, the modelling indicates that surface viscosity will increase above 10,000 cSt and that surface oil will start to move out of the ZoA and into State waters from day 1 of the spill.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

- Within 24 hours, Woodside has available 1-2 FWADC aircraft capable of dispersing 28 m³ to 112 m³ surface oil and covering an area of 3 km² to 8 km², plus 1 surface dispersant application vessel capable of dispersing 36 m³ to 72 m³ oil covering an area of ~1 km². Within 48 hours, Woodside has access to 2-4 FWADC and 1 high-capacity aircraft per day for the duration of the spill with a capability of dispersing 67 m³ to 1414 m³ surface oil and covering an area of 6 km² to 20 km² per day. Further to this, surface dispersant vessel availability increases to 2 by day 2, 4 by day 3 and 6 by day 6. Each vessel is capable of dispersing 36 m³ to 72 m³ oil covering an area of ~1 km² per day. For the capability available, this is therefore estimated to be 142 m³ to 840 m³ covering 4 km² to 6 km² by day 6.
- As described in Table 4-1 and Table 4-2, surface dispersant application is not predicted to be feasible beyond days 1-3 for CS-01 or CS-02. If ongoing dispersant operations were required and feasible, details of capability from week 2 to month 3 are included in Section 6.5 (Table 6-6).
- Surface dispersant application would target the thickest parts (BAOAC 4-5) at the leading edge of the surface slick and as close to the spill source as is feasible. This approach aims to mitigate the spread of the oil and maximise dispersant effectiveness thus reducing shoreline accumulations.
- At times, the capability will be limited by safety or logistics including number of airframes permitted in the airspace simultaneously.
- More detail regarding capability need is included at Section 6.5 together with consideration of potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are also included in Section 6.5.

5.6 Containment and Recovery

Containment and recovery is used to reduce damage to sensitive resources by the physical containment and mechanical removal of hydrocarbons from the marine environment. It has a lower capacity for removing surface oil than the application of dispersant but avoids potential additional impacts created by the resulting increase in entrained hydrocarbons in the water column.

Weathering and spreading of hydrocarbons will significantly reduce containment and recovery effectiveness. In the event of an ongoing loss of well control, modelling predicts fresh hydrocarbons reaching the surface may be heavily weathered and present in small discrete patches. Containment and Recovery is also weather and sea-state dependent. Periods of downtime can be expected.

The conditions in Exmouth are expected to exceed wind speeds equivalent to Beaufort Sea-state 3 for approximately 90% of the year (RPS modelling input data). Therefore, it is expected that open water containment and recovery operations would not, in general, be an effective response technique. However, Containment and Recovery may be available for deployment inside the Exmouth region and priority would be given to being prepared to deploy units if the conditions are met.

The *Containment and Recovery Operational Plan* details the mobilisation and resource requirements for response operations including the logistics, support and facility arrangements to manage the movement of personnel and resources.

5.6.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which response need is based:

CS-01 – Loss of Well Control	CS-02 – Topside release
The following statements identify the key parameters upon which response need is based: • Surface hydrocarbons with threshold concentrations suitable for feasible containment and recovery ($>50 \text{ g/m}^2$) are predicted on day 3 only, totalling 52 m^3. This would amount to $\sim 28 \text{ m}^3$ post weathering. • Peak surface area of 1 km^2 is predicted on day 3.	The following statements identify the key parameters upon which response need is based: • Surface hydrocarbons with threshold concentrations suitable for feasible containment and recovery ($>50 \text{ g/m}^2$) are predicted to reach a peak surface expression of $3,234 \text{ m}^3$ on day 1 (deterministic model: Q1, Run 47). This would amount to $\sim 1759 \text{ m}^3$ post weathering. • Peak surface area of 110 km^2 is predicted on day 4.
• The duration of the spill may extend up to 69 days (CS-01) with response operations extending to 4-5 months based on the predicted time to complete shoreline clean-up operations. • Containment and recovery is not appropriate for spills of MDO (CS-03). • Support organisations will be required to provide specialist services (logistics services for mobilizing equipment, trained Offshore Supervisors and waste disposal) and/or resources (vessels, containment and recovery equipment, transfer pumping systems) and should be exercised regularly. • Plans, procedures and support documents need to be in place for Operational and Support functions. These should be reviewed and updated regularly.	

In addition, a number of assumptions are required to estimate the response need for Containment and Recovery. These assumptions have been described in the table below.

Table 5-8: Response Planning Assumptions – Containment and Recovery

Response Planning Assumptions		
Safety considerations	Containment and recovery operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site. Personnel safety issues may include: - hydrocarbon gas and/or liquid exposure - high winds, waves and/or sea states - high ambient temperatures.	
Technique	Predicted performance range (% of surface oil volume available predicted to be recovered by response technique)	
Containment and recovery	Lower	5%
	Upper	10%
	The predicted performance range for containment and recovery is based on; - remaining surface oil available for containment and recovery following weathering - monitor and evaluate operations observing surface oil at minimum BAOAC 4 (discontinuous true oil colour) or BAOAC 5 (continuous true oil colour) - safe for deployment, within range of vessels and aircraft - encounter rate of approximately 50-75% (50-25% of surface coverage is not surface oil)	
Response Capability details		
Containment and recovery operation	One containment and recovery operation includes; 2 suitable vessels (vessel specifications as per Marine Operations Plan) 1 boom system (min 800 mm overall height and approximately 200 m length) with all required ancillaries) or 1 suitable vessel (vessel specifications as per Marine Operations Plan) 1 single ship system (min 800 mm overall height and approximately 200 m length) with all required ancillaries) and 1 skimmer (min 20 m³/hr) with all required ancillaries - Temporary storage (min 100 m³) 1-2 trained supervisor per operation 8-10 support personnel per operation	
Physical properties	Surface Threshold - Lower – 50 g/m² (equates to 100 g/m² with approximately 50% coverage and/or 200 g/m² with approximately 25% coverage) - BAOAC 4 – discontinuous true oil colour – lower threshold 50 g/m² - Optimum – 100 g/m² (equates to >100 g/m² with approximately 100% coverage and/or 200 g/m² with approximately 50% coverage) - BAOAC 5 – Continuous true oil colour – lower threshold 200 g/m²	
Expected effectiveness	- One containment and recovery operation is expected to be able to contain and recover approximately 11.25 – 67.5 m³ per day. This figure is based on a 5 hr (lower) to 10 hr (upper) operational day which allows for transit to the PAP location, change out of temporary waste storage equipment/ decanting (if required) and transit time between discreet oil patches. - Based on the following assumptions: - boom system with 70 m opening = 0.07 km - vessel moving at 0.7 kn = 1.3 km/h - area covered per hour = 0.07 km x 1.3 km = 0.09 km² - area covered per day (lower) = 0.09 km² x 5 hours = 0.45 km² / day - area covered per day (upper) = 0.09 km² x 10 hours = 0.9 km² / day - recovery per day (lower) = 0.45 km² x 50 g/m² x 50% coverage = 11.25 m³ per day - recovery per day (upper) = 0.9 km² x 100 g/m² x 75% = 67.5 m³ per day Increased surface oil concentration may result in increased recovery capacity providing other conditions and oil properties remain suitable for containment and recovery. For planning purposes, conservative concentrations outlined above have been used.	

5.6.2 Environmental performance based on need

Table 5-9: Environmental Performance – Containment and Recovery

Environmental Performance Outcome		To reduce consequences to surface and shoreline receptors.		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
18	Vessel-based recovery systems	18.1	Woodside maintains an integrated fleet of vessels, including vessels with at least 10 t bollard pull. Additional vessels can be sourced through existing contracts/frame agreements	1, 3A, 3B, 3C, 4
		18.2	2 containment and recovery operations would be deployed within 48 hours.	
		18.3	2 additional containment and recovery operations using 3 rd party provider resources would be deployed by day 4.	
		18.4	Each operation will have up to 100 m ³ internal or added of liquid waste storage onboard.	
19	Response teams	19.1	Deployment of 2 containment and recovery teams would be available by day 2, and 6 containment and recovery teams available by day 5.	1, 2, 3A, 3B, 3C, 4
		19.2	Deployment team will be comprised of: 1-2 trained specialists per operation 4-6 personnel for support - Personnel sourced through resource pool.	1, 2, 3B, 4
		19.3	Teams will segregate liquid and solid wastes at the earliest opportunity.	
		19.4	Open communication line to be maintained between IMT and infield operations to ensure awareness of progress against plan(s)	1, 3A, 3B
20	Response systems	20.1	Rapid sweep systems and active boom systems to be prioritised for mobilisation in the event of a response.	1, 3C
21	Management of environmental impact of the response risks	21.1	If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified	1
		21.2	Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines.	
		21.3	The boom will be monitored and maintained to ensure trapped fauna are released as early as possible, with Containment and Recovery activities occurring in daylight hours only.	

The resulting containment and recovery capability following ALARP evaluation has been assessed against the WCCSs:

- Surface concentration and mass vary for each time step based on spreading and weathering algorithms within the model. Woodside has reviewed the deterministic modelling data for the applicable scenarios (CS-01 and CS-02) to determine the response need and required capability for containment and recovery operations as a response technique (see Figure 2-6 and Figure 2 7).
 - For the subsea release scenario (CS-01 – loss of well containment), deterministic modelling predicts that there will be minor volumes of surface hydrocarbons for containment and recovery operations (peak surface volume of 52 m³ and area of 1 km² on day 3 only) – see Figure 2-6. Woodside's existing capability is sufficient to treat the expected surface hydrocarbons throughout the incident.
 - For the surface release (CS-02 – cargo tank loss of containment), deterministic modelling predicts that there will be surface hydrocarbons at feasible concentrations (>50 g/m²) on days 1-6 of the spill only – see Figure 2-7. Thereafter, the modelling indicates that surface concentrations will fall below the minimum thresholds (>50 g/m²).
- Within 24 hours, Woodside has available 1 containment and recovery operation capable of recovering up to 68 m³ surface oil covering an area of 1 km². Availability of containment and

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

recovery operations increases to 2 by day 2, 3 by day 3, 4 by day 4, and 6 by day 5. Thus, by day 5, the recovery capacity is estimated to be up to 405 m³ covering an area of 6 km².

- As described in Table 4-1 and Table 4-2, containment and recovery is not predicted to be feasible beyond day 3 for CS-01 or day 6 for CS-02. If required, details of ongoing capability from week 2 to month 3 are included in Section 6.6 (Table 6-13).
- Containment and recovery operations would target the thickest parts (BAOAC 4-5) at the leading edge of the surface slick and as close to the spill source as is feasible. This approach aims to mitigate the spread of the oil and maximise encounter rate in order to reduce potential shoreline accumulations.
- The efficiency of this response technique will decrease significantly as the slick moves, breaks into wind-rows and weathers resulting in less surface concentrations available for effective offshore recovery.
- At times, the capability will be limited by safety or logistics including number of available vessels and/or maintenance of feasible safe simultaneous operations (SIMOPS).
- More detail regarding capability need is included at Section 6.6 together with consideration of potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are also included in Section 6.6.

5.7 Shoreline Protection and Deflection

The placement of containment, protection or deflection booms on and near a shoreline is a response technique to reduce the potential volume of hydrocarbons contacting or spreading along shorelines, which may reduce the scale of shoreline clean-up. Hydrocarbons contained by the booms would be collected where practicable.

Shorelines would be protected where accessible via vessel or shore. Where hydrocarbon contact has already occurred, there may still be value in deploying protection equipment to limit further accumulations and preventing remobilisation of stranded hydrocarbons.

Shoreline protection and deflection equipment would be mobilised to selected locations, where the following conditions were met:

- Sea-states and hydrocarbon characteristics are safe to deploy protection and deflection measures,
- Oil trajectory has been identified as heading towards identified RPAs.

5.7.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which the response need can be based:

CS-01 – Loss of Well Control	CS-02 – Topside release	CS-03 – MDO release
• The shortest timeframe that shoreline contact from floating oil at concentrations of 100 g/m² predicted at Exmouth, Ningaloo Coast WH and State MP on day 3 (1,701 m³)..	• The shortest timeframe that shoreline contact from floating oil at concentrations of 100 g/m² predicted is 1.5 days at Exmouth, Ningaloo Coast WH and State MP (2,029 m³).	• The shortest timeframe that shoreline contact from floating oil at concentrations of 100 g/m² predicted is 0.7 days at Exmouth, Ningaloo Coast WH and State MP (202 tonnes).
• Pre-emptive assessment and shoreline assessments will be mobilised to RPAs contacted at 100 g/m², which occurs from within 3 days at Exmouth, Ningaloo Coast WH and State MP. • The duration of the spill may extend up to 69 days (CS-01) with response operations extending to 4-5 months based on the predicted time to complete shoreline clean-up operations. • Arrangements for support organisations who provide specialist services (trained personnel, protection and deflection equipment) and/or resources and should be tested regularly. • TRPs for RPAs along with other relevant plans, procedures and support documents need to be in place for Operational and Support functions. These should be reviewed and updated regularly. • Plans, procedures and support documents need to be in place for Operational and Support Sections. These should be reviewed and updated regularly.		

In addition, a number of assumptions are required to estimate the response need for shoreline protection and deflection. These assumptions have been described in the table below.

Table 5-10: Response Planning Assumptions – Shoreline Protection and Deflection

Response Planning Assumptions	
Safety considerations	Shoreline protection and deflection operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site. Personnel safety issues may include: • hydrocarbon gas and/or liquid exposure • safe for deployment and conditions within range of vessels • high ambient temperatures.
Shoreline Protection and Deflection	One Shoreline Protection and Deflection operation may include: • quantity of shoreline sealing boom (as outlined in TRP) • quantity of fence or curtain boom (as outlined in TRP) • 1-2 trained supervisors • 8-10 personnel/ labour hire Specific details of each operation would be tailored to the TRP implemented (where available).

5.7.2 Environmental performance based on need

Table 5-11: Environmental Performance – Shoreline protection and deflection

Environmental Performance Outcome		To stop hydrocarbons encountering particularly sensitive areas		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
22	Response teams	22.1	In liaison with WA DTMI (for Level 2/3 incidents), relevant Tactical Response Plans (TRPs) will be identified in the First Strike plan for activation within 12 hours of the release.	1, 3A, 3C, 4
		22.2	In liaison with WA DTMI (for Level 2/3 incidents), mobilise teams to RPAs within 24 hours. Teams to contaminated RPAs comprised of: 1-2 trained specialists per operation 8-10 personnel/labour hire - personnel sourced through resource pool.	1, 2, 3B, 3C, 4
		22.3	In liaison with WA DTMI (for Level 2/3 incidents), 1 operation mobilised within 24 hours to each identified RPA. Expected to be 5 RPAs by day 5 (CS-02). Operation as detailed above.	1, 3A, 3B, 4
		22.4	12 trained personnel available within 24 hours sourced through resource pool.	1, 2, 3A, 3B, 3C, 4
		22.5	Open communication line to be maintained between IMT and infield operations to ensure awareness of progress against plan(s).	1, 3A, 3B
		22.6	The safety of shoreline response operations will be considered and appropriately managed. During shoreline operations: - All personnel in a response will receive an operational/safety briefing before commencing operations. - Gas monitoring and site entry protocols will be used to assess safety of an operational area before allowing access to response personnel.	1, 3B, 4
23	Response equipment	23.1	Equipment mobilised from closest stockpile within 24 hours.	1, 3A, 3C, 4
		23.2	Supplementary equipment mobilised from AMOSC and State stockpiles within 48 hours.	1, 3C, 4
		22.3	Supplementary equipment mobilised from OSRL within 48 hours.	
		22.4	Woodside maintains integrated fleet of vessels. Additional vessels can be sourced through existing contracts/frame agreements.	1, 3A, 3C, 4
24	Management of environmental impact of the response risks	24.1	If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified.	1
		24.2	Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines.	

The resulting shoreline protection and deflection capability has been assessed against the WCCS. The range of techniques provide an ongoing approach to shoreline protection and deflection at identified RPAs.

Under optimal conditions, the capability available meets the need identified by day 1-2. It indicates that, the shoreline protection and deflection capability has the following expected performance:

- Existing capability allows for mobilisation and deployment of 1 protection and deflection operations within 24 hours. Within 48 hours, Woodside can mobilise up to 15 response operations comprising its team of trained response personnel from Karratha (the 'Burrup Response Team'), Woodside's labour hire contract, and appropriate shoreline response equipment. This capability increases to 20

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

operations by day 4 and would also include team leads from Woodside, AMOSC, AMOSC Core Group and/or OSRL together with existing labour hire contracts.

- Shoreline contact at response thresholds for CS-01 is predicted up to day 55 (month 2), up to day 17 for CS-02 and up to day 4 for CS-03. If required, additional capability availability information from week 2 through to month 4 is detailed in Section 6.7. It should be noted that response operations are able to be repeatedly redeployed throughout the response to allow protection of new priority locations as/ if they become at risk of contact if the oil continues to migrate.
- The most significant constraint on expanding the scale of response operations is the availability of accommodation and transport services in the region between Exmouth and Port Hedland, and the management of response generated waste. From previous assessment of accommodation in this region, Woodside estimates that current accommodation can cater for a range of 500-700 personnel per day for an ongoing operation.
- TRPs have been developed for identified RPAs excepting international locations.
- More detail regarding capability need is included at Section 6.7 together with consideration of potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are also included in Section 6.7.

5.8 Shoreline Clean-up

Shoreline clean-up may be undertaken using a broad range of techniques when floating hydrocarbons contact shorelines. The timing, location and extent of shoreline clean-up activities can vary from one scenario to another, depending on the hydrocarbon type, sensitivities and values contacted, shoreline type and access, degree of oiling, and area oiled.

Shoreline clean-up is typically undertaken as a three-phase process:

- phase one (gross contamination removal) involving the collection of bulk oil, either floating against the shoreline or stranded on it
- phase two (moderate to heavy contamination removal) involving removal or in-situ treatment of shoreline substrates such as sand or pebble beaches
- phase three (final treatment or polishing) involving removal of the remaining residues of oil.

As phase one typically involves recovery of floating and pooled oil, and phase three removes minor volumes, they have not been considered in the assessment of response need for the scenarios identified.

The *Shoreline Clean-up Operational Plan* details the mobilisation and resource requirements for a shoreline clean-up operation including the logistics, support and facility arrangements to manage the movement of personnel and resources.

The *Shoreline Clean-up Operational Plan* includes the process for the IMT to mobilise resources depending on the nature and scale of the spill. Woodside would activate and mobilise trained and competent personnel in shoreline assessment before or following shoreline contact at response thresholds.

Shoreline clean-up consists of different manual and mechanical recovery techniques to remove hydrocarbons and contaminated debris from a shoreline; this is to minimise ongoing environmental contamination and impact. The National Plan also provides guidance on shoreline clean-up techniques as outlined in National Plan Guidance *Response assessment and termination of cleaning for oil contaminated foreshores* (AMSA 2015).

5.8.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which the response need can be based:

CS-01 – Loss of Well Control	CS-02 – Topside release	CS-03 – MDO release
The shortest timeframe that shoreline contact from floating oil at concentrations of 100 g/m ² predicted at Exmouth, Ningaloo Coast WH and State MP on day 3 (1,701 m ³).	The shortest timeframe that shoreline contact from floating oil at concentrations of 100 g/m ² predicted is 1.5 days at Exmouth, Ningaloo Coast WH and State MP (2,029 m ³).	The shortest timeframe that shoreline contact from floating oil at concentrations of 100 g/m ² predicted is 0.7 days at Exmouth, Ningaloo Coast WH and State MP (202 tonnes).
• Pre-emptive assessment and shoreline assessments will be mobilised to RPAs contacted at 100 g/m², which occurs from within 3 days at Exmouth, Ningaloo Coast WH and State MP. • The duration of the spill may extend up to 69 days (CS-01) with response operations extending to 4-5 months based on the predicted time to complete shoreline clean-up operations. • Pre-emptive assessment and shoreline assessments will be mobilised to RPAs with shoreline contact in agreement with WA Department of Transport and Major Infrastructure. • Following Shoreline Assessment and agreement of prioritisation with WA Department of Transport and Major Infrastructure, clean-up operations would commence until agreed termination criteria are reached. • Arrangements for support organisations who provide specialist services (trained personnel, labour hire, shoreline clean-up, and site management equipment) and/or resources and should be tested regularly. • TRPs for RPAs along with other relevant plans, procedures and support documents should be in developed and in place for Operational and Support functions. These should be reviewed and updated regularly. Plans, procedures and support documents need to be in place for Operational and Support Sections. These should be reviewed and updated regularly.		

In addition, assumptions are required to estimate the response need for shoreline clean-up. These assumptions have been described in the table below.

Table 5-12: Response Planning Assumptions – Shoreline Clean-up

Response planning assumptions: Shoreline clean-up	
Safety considerations	Shoreline clean-up operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site. Personnel safety issues may include: • hydrocarbon gas and/or liquid exposure • waves and/or sea states, tidal cycle and intertidal zone limits • presence of wildlife • high ambient temperatures.
Manual shoreline clean-up operation (Phase 2)	One, manual shoreline clean-up operation (Phase 2) may include: • 1–2 trained supervisor • 8–10 personnel/ labour hire • supporting equipment for manual clean-up including rakes, shovels, plastic bags etc.
Physical properties	Surface Threshold • Lower – 100 g/m²–100% coverage of 'stain' – cannot be scratched off easily on coarse sediments or bedrock. Expected trigger to undertake detailed shoreline survey. • Optimum – 250 g/m² – 25% coverage of 'coat' – can be scratched off with a fingernail on coarse sediments. Expected trigger to commence clean-up operations.
Efficiency (m ³ oil recovered per person per day)	Manual shoreline clean-up (Phase 2) – approximately 0.25–1 m³ oil recovered per person per 10 hour day is based on moderate to high coverage of oil (100 g/m²–1000 g/m²) with manual removal using shovels/rakes, etc. from studies of previous response operations and exercises.

Table 5-13: Shoreline Clean-up techniques and recommendations

Technique	Description	Shoreline type		Application
		Recommended	Not recommended	
Natural recovery	Allowing shoreline to self-clean; no intervention undertaken.	Remote and inaccessible shorelines for personnel, vehicles and machinery. Other clean-up techniques may cause more damage than allowing the shoreline to naturally recover. Natural recovery may be recommended for areas with mangroves and coral reefs due to their sensitivity to disturbance from other shoreline clean-up techniques. High-energy shorelines: where natural removal rates are high, and hydrocarbons will be removed over a short timeframe.	Low-energy shorelines: these areas tend to be where hydrocarbon accumulates and penetrates soil and substrates.	May be employed, if the operational NEBA identifies that other clean-up techniques will have a negligible or negative environmental impact on the shoreline. May also be used for buried or reworked hydrocarbons where other techniques may not recover these.
Manual recovery	Use of manpower to collect hydrocarbons from the shoreline. Use of this form of clean-up is based on type of shoreline.	Remote and inaccessible shorelines for vehicles and machinery. Areas where shorelines may not be accessible by vehicles or machinery and personnel can recover hydrocarbons manually. Where hydrocarbons have formed semi-solid to solid masses that can be picked up manually. Areas where nesting and breeding fauna cannot or should not be disturbed.	Coral reef or other sensitive intertidal habitats, as the presence of a response may cause more environmental damage than allowing them to recover naturally. For some high-energy shorelines such as cliffs and sea walls, manual recovery may not be recommended as it may pose a safety threat to responders.	May be used for sandy shorelines. Buried hydrocarbons may be recovered using shovels into small carry waste bags, but where possible the shoreline should be left to naturally recover to prevent any further burying of hydrocarbons (from general clean-up activities).

Technique	Description	Shoreline type		Application
		Recommended	Not recommended	
Sorbents	Sorbent boom or pads used to recover fluid or sticky hydrocarbons. Can also be used after manual clean-up to remove any residues from crevices or from vegetation.	When hydrocarbons are free-floating close to shore or stranded onshore. As a secondary treatment method after hydrocarbon removal and in sensitive areas where access is restricted.	Access for deploying and retrieving sorbents should not be through soft or sensitive habitats or affect wildlife.	Used for rocky shorelines. Sorbent boom will allow for deployment from small shallow draught vessels, which will allow deployment close to shore where water is sheltered and to aid recovery. Sorbents will create more solid waste compared with manual clean-up, so will be limited to cleaning rocky shorelines.
Vacuum recovery, flushing, washing	The use of high volumes of low-pressure water, pumping and/or vacuuming to remove floating hydrocarbons accumulated at shorelines.	Suited to rocky or pebble shores where flushing can remobilise hydrocarbons (to be broken up) and aid natural recovery. Any accessible shoreline type from land or water. May be mounted on barges for water-based operations, on trucks driven to the recovery area, or hand-carried to remote sites. Flushing and vacuum may be useful for rocky substrate. Medium- to high-energy shorelines where natural removal rates are moderate to high. Where flushed hydrocarbons can be recovered to prevent further oiling of shorelines.	Areas of pooled light, fresh hydrocarbons may not be recoverable via vacuum due to fire and explosion risks. Shorelines with limited access. Flushing and washing not recommended for loose sediments. High-energy shorelines where access is restricted.	High volume low pressure (HVLP) flushing and washing into a sorbent boom could be used for rocky substrate, if protection booming has been unsuccessful in deflecting hydrocarbons from these areas.
Sediment reworking	Movement of sediment to surf to allow hydrocarbons to be removed from the sediment and move sand via heavy machinery.	When hydrocarbons have penetrated below the surface. Recommended for pebble/cobble shoreline types. Medium- to high-energy shorelines where natural removal rates are moderate to high.	Low-energy shorelines as the movement of substrate will not accelerate the natural cleaning process. Areas used by fauna which could potentially be affected by remobilised hydrocarbons.	Use of wave action to clean sediment: appropriate for sandy beaches where light machinery is accessible.

Technique	Description	Shoreline type		Application
		Recommended	Not recommended	
Vegetation cutting	Cutting vegetation to prevent oiling and reduce volume of waste and debris.	Vegetation cutting may be recommended to reduce the potential for wildlife being oiled. Where oiling is restricted to fringing vegetation.	Access in bird-nesting areas should be restricted during nesting seasons. Areas of slow-growing vegetation.	May be used on shorelines where vegetation can be safely cleared to reduce oiling.
Cleaning agents	Application of chemicals such as dispersants to remove hydrocarbons.	May be used for manmade structures and where public safety may be a concern.	Natural substrates and in low-energy environments where sufficient mixing energy is not present.	Not recommended for shorelines. Could be used for manmade structures such as boat ramps.

5.8.2 Environmental performance based on need

Table 5-14: Environmental Performance – Shoreline Clean-up

Environmental Performance Outcome		To remove bulk and stranded hydrocarbons from shorelines and facilitate shoreline amenity habitat recovery.		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
25	Shoreline responders	25.1	In liaison with WA DTMI (for Level 2/3 incidents), deployment of shoreline clean-up teams to contaminated RPAs comprised of: 1-2 trained specialists per operation 8-10 personnel/labour hire - personnel sourced through resource pool within 24 hours of request from the IMT.	1, 2, 3A, 3B, 3C, 4
		25.2	Relevant Tactical Response Plans (TRPs) will be identified in the first strike plan for activation within 24 hours of a release.	1, 3A, 3C, 4
		25.3	Clean-up operations for shorelines in line with results and recommendations from SCAT outputs.	1, 3A, 3B
		25.4	All shoreline clean-up sites will be zoned and marked before clean-up operations commence to prevent secondary contamination and minimise the mixing of clean and oiled sediment and shoreline substrates.	
		25.5	In liaison with WA DTMI (for Level 2/3 incidents), mobilise and deploy 1 shoreline clean-up operations within 24 hours.	1, 2, 3A, 3C, 4
		25.6	Mobilise and deploy up to 5 shoreline clean up operations by day 5 (CS-02).	1, 2, 3A, 3C, 4
		25.7	Mobilise and deploy up to 22 shoreline clean up operations by Week 3 (CS-02).	1, 2, 3A, 3C, 4
		25.8	The safety of shoreline response operations will be considered and appropriately managed. During shoreline clean-up operations: - All personnel in a response will receive an operational/safety briefing before commencing operations - Gas monitoring and site entry protocols will be used to assess safety of an operational area before allowing access to response personnel.	1, 3B, 4
		25.9	Open communication line to be maintained between IMT and infield operations to ensure awareness of progress against plan(s).	1, 3A, 3B
26	Shoreline clean-up equipment	26.1	Contract in place with 3 rd party providers to access equipment.	1, 3A, 3C, 4
		26.2	Equipment mobilised from closest stockpile within 24 hours.	
		26.3	Supplementary equipment mobilised from AMOSC and State stockpiles within 48 hours.	1, 3C, 4
		26.4	Supplementary equipment mobilised from OSRL within 48 hours.	
27	Management of environmental impact of the response risks	27.1	If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified.	1
		27.2	Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines.	
		27.3	Vehicular access will be restricted on dunes, turtle nesting beaches and in mangroves.	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Environmental Performance Outcome		To remove bulk and stranded hydrocarbons from shorelines and facilitate shoreline amenity habitat recovery.		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
		27.4	Removal of vegetation will be limited to moderately or heavily oiled vegetation.	
		27.5	Shoreline access routes with the least environmental impact identified will be selected by a specialist in SCAT operations.	
		27.6	Oversight by trained personnel who are aware of the risks.	
		27.7	Trained unit leaders will brief personnel prior to operations of the environmental risks of presence of personnel on the shoreline.	

The resulting shoreline clean-up capability has been assessed against the WCCS. The range of techniques provide an ongoing approach to shoreline clean-up at identified RPAs.

The capability available has limitations identified for this activity. The shoreline clean-up capability has the following performance (if required during a response):

- Existing capability allows for mobilisation and deployment of 1 protection and deflection operation within 24 hours. Within 48 hours, Woodside can mobilise up to 15 response operations comprising its team of trained response personnel from Karratha (the 'Burrup Response Team'), Woodside's personnel/ labour hire contract, and appropriate shoreline response equipment. This capability increases to 20 operations by day 4 and would also include team leads from Woodside, AMOSC, AMOSC Core Group and/or OSRL together with existing personnel/ labour hire contracts. As detailed in Table 5-12, teams would comprise 1 supervisor with 8 personnel/ labour hire up to 2 supervisors with 10 personnel/ labour hire. Each individual within a team is predicted to be able to remove 0.25 m³ to 1 m³ oil/ oiled waste per day dependent upon the nature of the shoreline oiling.
- Shoreline contact at response thresholds for CS-01 is predicted up to day 55 (month 2), up to day 17 for CS-02 and up to day 4 for CS-03. If required, additional capability availability information from week 2 through to month 4 is detailed in Section 6.8. It should be noted that response operations are able to be repeatedly redeployed to new locations throughout the response for ongoing clean-up if the oil continues to migrate.
- Safety factors will also be considered, including the potential for personnel to be exposed to hydrocarbon vapours in the early stages of a response.
- Woodside has considered deployment of additional personnel to undertake shoreline clean-up operations but is satisfied that the identified level of resource is balanced between cost, time and effectiveness.
- The most significant constraint on expanding the scale of response operations is the availability of accommodation and transport services in the region between Onslow and Dampier and management of response generated waste. From previous assessment of accommodation in Onslow and Dampier, Woodside estimates that current accommodation can cater for a range of 500-700 personnel per day for an ongoing operation.
- TRPs have been developed for identified RPAs excepting international locations.
- More detail regarding capability need is included at Section 6.8 together with consideration of potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.8.

5.9 Oiled wildlife response (including hazing)

Oiled wildlife response (OWR) includes wildlife surveillance/reconnaissance, wildlife hazing, pre-emptive capture, and the capture, cleaning, treatment, and rehabilitation of animals that have been oiled. In addition, it includes the collection, post-mortem examination, and disposal of deceased animals that have succumbed to the effects of oiling.

For a petroleum activity spill in Commonwealth waters, Woodside will act as the Control Agency and will be responsible for the wildlife response. In such circumstances, Woodside would implement a response in accordance with the *Oiled Wildlife Operational Plan*, the WA Oiled Wildlife Response Plan (WAOWRP) (DBCA, 2022a) and the WA OWR Manual (DBCA, 2022b). The *Oiled Wildlife Operational Plan* includes the process for the IMT to mobilise resources depending on the nature and scale of the spill. Oiled wildlife operations would be implemented with advice and assistance from the Oiled Wildlife Advisor from the Department of Biodiversity, Conservation and Attractions (DBCA).

The key plan for OWR in WA is the WAOWRP (DBCA, 2022a). The WAOWRP establishes the framework for preparing and responding to potential or actual wildlife impacts during a spill and sets out the management arrangements for implementing an OWR in conjunction with the DTMI *State Hazard Plan – Maritime Environmental Emergencies* (SHP-MEE). It is the responsibility of DBCA to administer the WAOWRP under the direction of the DTMI. The WA OWR Manual (DBCA, 2022b) supports, and should be used in conjunction with, the WAOWRP. The purpose of the WA OWR Manual is to standardise the operating procedures, protocols and processes for an OWR during a spill event in WA waters, and to create alignment between the wildlife response processes and the overall incident response (DBCA, 2022b).

If a spill occurs in WA State waters or enters State waters, DBCA is the Jurisdictional Authority for wildlife, for level 2/3 spills, and will also lead the oiled wildlife response under the control of the DTMI. DBCA is the State Government agency responsible for administering the *Biodiversity Conservation Act 2016 (WA) (BC Act)* which has provisions for authorising activities that affect wildlife.

For level 1 spills in State waters, Woodside will be the Control Agency, including for wildlife response. It is, however, also an expectation that for level 2/3 petroleum activity spills, Woodside will conduct the initial first-strike response actions for wildlife response and continue to manage those operations until DBCA is activated as the lead agency for wildlife response and formal handover occurs. Following formal handover, Woodside will function as a support organisation for the OWR and will be expected to continue to provide planning and resources as required.

Woodside retains specialist personnel to support and manage oiled wildlife operations, including trained and competent responders for deployment in Exmouth and Dampier. Additional personnel would be sourced through Woodside's arrangements to support an oiled wildlife response as required.

5.9.1 Response need based on predicted consequence parameters

Wildlife response protection areas and assessment of wildlife impact

French-McCay et al. (2002), based on a review of existing literature at the time, determined lethal thresholds for floating and shoreline oil for the external coating of wildlife to be 10 g/m² for floating, and 100 g/m² for shoreline accumulation. It should however be noted that toxicity thresholds for wildlife are likely to be highly variable due to differences in species sensitivity, type of hydrocarbon, type of exposure (ingestion or external oiling), life-stage, and on-water versus land habitat.

For planning purposes, determination of wildlife priority protection areas is based on stochastic modelling of the worst-case spill scenarios at 10 g/m² for floating, and 100 g/m² for shoreline accumulation (acknowledging that impacts to wildlife may occur at lower concentrations), the known presence of wildlife, and in consideration of the following:

- presence of high densities of wildlife, threatened species, and/or endemic species with high site fidelity
- greatest probability of shoreline accumulation
- shortest timeframe to contact.

At the time of a spill, identification and allocation of wildlife response protection areas should also take into consideration any key biological activities.

For WA, although somewhat out-dated, the Pilbara and Kimberley Regional Oiled Wildlife Plans (DBCA [formerly Department of Parks and Wildlife], 2014) provide useful information relating to wildlife priority response areas in their respective regions.

Table 5-15: Key at-risk species potentially in Priority Protection Areas and open ocean (based on deterministic modelling for CS-01 and CS-02 and stochastic modelling for CS-03)

Species	Barrow/Middle/Boodie Islands/reserves/reefs	Cape Range	Camaron	Christmas Island/Cocos Keeling	Dampier Archipelago Islands/reserves/reefs	Exmouth Gulf/Islands/reserves/reefs	Exmouth, Ningaloo Coast WH and State MP	Gascoyne Marine Park	Indonesia	Kimberley Islands/Reserves/Reefs/IPAs	Kimberley Shoreline	Lalang-garram Marine Park (North, Camden Sound and Horizontal Falls)	Lowendal, Hermite, Montebello Islands/reserves/reefs	Middle Pilbara Islands/reserves/reefs	Ningaloo/Muiron Islands/reserves/reefs	Ningaloo Marine Park	North Pilbara Islands/reserves/reefs	Northern Pilbara – Shoreline	Shark Bay (Australian Marine Park & World Heritage Area)	South Pilbara Islands/reserves/reefs	Southern Pilbara – Shoreline
Cetaceans – Migratory Whales	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x					x
Cetaceans – dolphins and porpoises	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Dugongs	x	x	x		x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	
Marine turtles (including foraging and inter-nesting areas and significant nesting beaches)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Sea Snakes	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Whale sharks (migration to and from waters at Ningaloo)	x	x	x	x			x	x	x	x			x		x	x					
Seabirds and/or migratory shorebirds	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

The following statements identify the key parameters upon which a wildlife response need can be based:

- Floating surface oil $>10 \text{ g/m}^2$ is expected within 0.2 days at Gascoyne MP and Exmouth, Ningaloo Coast WH and State MP (CS-02 and CS-03) and within 4 days at Exmouth, Ningaloo Coast WH and State MP (CS-01).
- The shortest timeframe that shoreline contact at concentrations $>100 \text{ g/m}^2$ predicted is:
 - 0.7 days at Exmouth, Ningaloo Coast WH and State MP (202 tonnes) for CS-03
 - 1.5 days at Exmouth, Ningaloo Coast WH and State MP (2,029 m^3) for CS-02
 - 3 days at Exmouth, Ningaloo Coast WH and State MP for CS-01.
 -
- At sea, there are likely to be lower numbers of at risk or impacted wildlife, and limited opportunities to rescue wildlife, given the distribution and behaviour of animals in the open marine environment.
- As the surface oil approaches shorelines and as oil accumulates on the shoreline, potential for oiled wildlife impacts is likely to increase as well as opportunities to rescue wildlife.
- It is estimated that the wildlife impact would be high, as defined in the WAOWRP (DBCA, 2022a) (Table 5-16).

Table 5-16: WAOWRP Guide for rating wildlife impact of an oil spill (DBCA, 2022)

Wildlife Impact Rating	Low	Medium	High
What is the likely duration of the wildlife response?	<3 days	3-10 days	>10 days
What is the likely total intake of animals?	<10	11-25	>25
What is the likely daily intake of animals?	0-2	2-5	>5
Are threatened species, or species protected by treaty, likely to be impacted, either directly or by pollution of habitat or breeding areas?	No	Yes – possible	Yes – likely
Is there likely to be a requirement for building primary care facility for treatment, cleaning and rehabilitation?	No	Yes – possible	Yes – likely

Tactics

Where there is imminent or actual impact to wildlife, Woodside will activate the Wildlife Division and follow the oiled wildlife incident management framework and implementation plan outlined in the Woodside *Oiled Wildlife Operational Plan*.

In Commonwealth waters, Woodside will be responsible for the planning and implementation of the OWR in its entirety. Noting that at sea, and in comparison, to the shoreline, there are likely to be less wildlife impacted by an oil spill and limited opportunities to rescue wildlife, given the distribution and behaviour of animals in the open marine environment. At sea, continued wildlife reconnaissance, carcass recovery, sampling of carcasses that cannot be retrieved and integration with scientific monitoring are more likely to be the focus of the OWR.

In State waters, Woodside will conduct the initial first-strike response actions for wildlife and continue to manage those operations until DBCA is activated as the lead agency for wildlife response and formal handover occurs. Following formal handover, Woodside will function as a support organisation for the OWR and will be expected to continue to provide planning and resources as required.

If a protracted response requiring preventative actions and/or wildlife rescue is likely, and formal hand over to the Control Agency (in State waters) has not yet occurred, the Wildlife Division will be responsible for the development of the Wildlife Division portion of the IAP. Preventative actions, such as hazing, capture, intake and treatment, require a higher degree of planning, approval (licenses) and skills. These activities will be planned for and carried out under the IAP as outlined in the *Oiled Wildlife Operational Plan* and in accordance with the WAOWRP (DBCA, 2022a) and WA OWR Manual (DBAC, 20022b).

5.9.2 Environmental performance based on need

Table 5-17: Environmental Performance – Oiled Wildlife Response

Environmental Performance Outcome		OWR is conducted in accordance with the Western Australian Oiled Wildlife Response Plan (WAOWRP, 2022) to meet legislative requirements to house, release or euthanise wildlife under the <i>Biodiversity Conservation Act 2016</i> (WA).		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
28	Wildlife response arrangements	28.1	Oiled Wildlife Operational Plan in place and utilised during a response to plan, coordinate, implement and terminate operations.	1, 3A, 4
		28.2	Initiate a wildlife first strike response within 24 hours of confirmed or imminent wildlife contact as directed by OMP: Marine Fauna Assessment and in liaison with DBCA.	1
29	Wildlife response equipment	29.1	Maintain contract with AMOSC for immediate access to oiled wildlife response equipment.	1, 3C, 4
		29.2	Maintain contract with OSRL to access additional oiled wildlife response equipment.	1, 3C, 4
30	Wildlife responders	30.1	Two Oiled Wildlife Team Members to supervise the oiled wildlife operations who have completed an Oiled Wildlife Response Management course.	1, 2, 3B
		30.2	Maintain contract with AMOSC for immediate access to trained oiled wildlife response specialists.	1, 3B, 3C
		30.3	Maintain contract with OSRL to access additional trained OWR specialists.	1, 3B, 3C
		30.4	Open communication line to be maintained between IMT and infield operations to ensure awareness of progress against plan(s).	1, 3A, 3B
31	Management of environmental impacts of response risks	31.1	Oiled wildlife operations (including hazing) would be implemented with advice and assistance from the Oiled Wildlife Advisor from the DBCA, and in accordance with the processes and methodologies described in the WA OWRP and the relevant regional plan.	1

The resulting wildlife response capability has been assessed against the WCCS. The range of techniques provide an ongoing approach to response at identified RPAs.

Under optimal conditions, during the subsea or surface release, the capability available meets the need identified. It indicates that, the wildlife response capability has the following expected performance to:

- undertake OWR first strike response including mobilisation of monitor and evaluate and OMP: Marine Fauna Assessment to identify wildlife and RPAs contacted or at imminent risk of contact by hydrocarbons
- confirm availability and mobilisation of trained OWR personnel to supervise OWR activities
- access wildlife resources (personnel and equipment) to meet the needs where there are medium or high levels of wildlife impact.

5.10 Waste Management

Waste management is considered a support technique to wildlife response, containment and recovery and shoreline clean-up. Waste generated and collected during the response that will require handling, management and disposal may consist of:

- liquids (hydrocarbons and contaminated liquids) collected during containment and recovery, shoreline clean-up and oiled wildlife operations
- solids/semi-solids (oily solids, garbage, contaminated materials) and debris (e.g. seaweed, sand, woods, and plastics) collected during containment and recovery, shoreline clean-up and oiled wildlife operations.

Expected waste volumes during an event are likely to vary depending on oil type, volume released, response techniques employed and how weathering of hydrocarbons. Waste management, handling and capacity should be scalable to maintain continuous response operations.

All waste management activities will follow the Environment Protection (Controlled Waste) Regulations 2004 (WA) and the waste will be managed to minimise final disposal volumes. Waste treatment techniques will consider contaminated solids treatment to allow disposal to landfill and solids with high concentrations of hydrocarbon will be treated and recycled where possible or used in clean fill if suitable.

The waste products would be transported from response locations to the nearest suitable staging area/waste transfer station for treatment, disposal or recycling. Waste will be transferred with appropriately licensed vehicles. Containers will be available for temporary waste storage and will be:

- labelled with the waste type
- provided with appropriate lids to prevent waste being blown overboard
- bunded if storing liquid wastes.

Processes will be in place for transfers of bulk liquid wastes and include

- inspection of transfer hose undertaken prior to transfer
- watchman equipped with radio visually monitors loading hose during transfer
- tank gauges monitored throughout operation to prevent overflow.

The *Oil Spill Preparedness Waste Management Support Plan* details the procedures, capability and capacity in place between Woodside and its primary waste services contractor to manage waste volumes generated from response activities.

5.10.1 Response need based on predicted consequence parameters

Table 5-18: Response Planning Assumptions – Waste Management

Response planning assumptions: Waste management	
Waste loading per m ³ oil recovered (multiplier)	Containment and Recovery – approximately 10x multiplier for oily waste generated by containment and recovery operations.
	Shoreline clean-up (manual) – approximately 5-10x multiplier for oily solid and liquid wastes generated by manual clean-up.
	Oiled wildlife response – approximately 1 m ³ of oily solid and liquid waste generated for each wildlife unit cleaned.

5.10.2 Environmental performance based on need

Table 5-19: Environmental Performance – Waste Management

Environmental Performance Outcome		To minimise further impacts, waste will be managed, tracked and disposed of in accordance with laws and regulations.		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
32	Waste Management	32.1	Contract with waste management services for transport, removal, treatment and disposal of waste.	1, 3A, 3B, 3C, 4
		32.2	Access to at least 675 m ³ of solid and liquid waste storage available within 4 days upon activation of 3 rd party contract.	
		32.3	Access to up to 16,800 m ³ by Week 2.	
		32.4	Recovered hydrocarbons and wastes will be transferred to licensed treatment facility for reprocessing or disposal.	
		32.5	Waste management provider support staff available year-round to assist in the event of an incident with waste management as detailed in contract.	
		32.6	Open communication line to be maintained between IMT and waste management services to ensure the reliable flow of accurate information between parties.	1, 3A, 3B
		32.7	Waste management to be conducted in accordance with Australian laws and regulations.	1, 3A, 3B, 3C, 4
		32.8	Waste management services available and employed during response.	
33	Management of environmental impacts of response risks	33.1	Teams will segregate liquid and solid wastes at the earliest opportunity.	1, 3A, 3B, 3C, 4

The resulting waste management capability has been assessed against the WCCS. The range of techniques provide an ongoing approach to waste management at identified RPAs.

Noting that offshore surface dispersant application and containment and recovery operations are unlikely to be a significant part of the response for the WCCS, the greatest waste volumes are associated with shoreline clean-up activities, with a small contribution from potential shoreline protection and deflection.

The greatest volumes of oiled waste collected for CS-01 may involve:

- a total of 203 m³ within 24 hours (from containment and recovery operations) with a week-1 peak of 738-2815 m³ on day 7 (from containment and recovery, and shoreline operations). Woodside expects to have access to 124 m³ waste storage within 24 hours and up to 2400 m³ by day 6.

a weekly peak of 5968-25,405 m³ and a monthly peak of 23,851-101,585 m³ by month 2 (from containment and recovery, and shoreline operations). From week 2, Woodside expects to have access to 16,800 m³ waste storage units per week and, from month 2, 67,200 m³ waste storage units per month. The greatest volumes of oiled waste collected for CS-02 may involve:

- a total of 283 m³ within 24 hours (from containment and recovery and shoreline operations) with a week-1 peak of 738-2815 m³ on day 7 (from containment and recovery, and shoreline operations). Woodside expects to have access to 124 m³ waste storage within 24 hours and up to 2400 m³ by day 6.
- a weekly peak of 5962-25,395 m³ and a monthly peak of 23,800-101,500 m³ by month 2 (from containment and recovery, and shoreline operations). From week 2, Woodside expects to have access to 16,800 m³ waste storage units per week and, from month 2, 67,200 m³ waste storage units per month.

The greatest volumes of oiled waste collected for CS-03 may involve:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

- a total of 26-90 m³ within 24 hours with a week-1 peak of 1605 m³ by day 4 (from shoreline operations). Woodside expects to have access to 124 m³ waste storage within 24 hours and up to 2400 m³ by day 6. Due to the limited nature of the CS-03 scenario, no further oil recovery operations are predicted to be required beyond week 1.

Woodside's waste contractor has access to waste receptacles totalling approximately 120,000 m³ to treat overall waste volumes noting that, once filled, these receptacles would be emptied at intermediate storage or waste processing sites and then be available for repeated reuse for the duration of the response operations. The waste management requirements are therefore within Woodside's and its service providers' existing capacity.

Woodside has assessed the existing capability available and considered potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.6.

5.11 Operational and Scientific monitoring

Operational and scientific monitoring (OSM) is a key component of the environmental management document framework for offshore petroleum activities, which includes activity EPs and OPEPs. The key elements and differences between operational monitoring and scientific monitoring include:

- **Operational Monitoring (OM)** – Is undertaken during the course of the spill and includes any physical, chemical and biological assessments that may guide operational decisions such as selecting the appropriate response and mitigation methods and/or to determine a response activity. Information needs to be collected and processed rapidly to suit response needs, with a lower level of sampling and accuracy needed than for scientific purposes. For the OMP initiation and termination criteria during a Level 2-3 spill event refer to Table 9-1 of the Joint Industry OSM Framework.
- **Scientific Monitoring (SM)** - Is the principal tool for determining the extent, severity and persistence of possible environmental impacts from a hydrocarbon spill and for informing resultant remediation activities. Consequently, such studies are required to account for natural or sampling variation, and study designs must be robust and produce defensible data. Scientific monitoring is typically conducted over a wider study area, extending beyond the spill footprint, and a longer time period, extending beyond the spill response. For the SMP initiation and termination criteria during a Level 2-3 spill event refer to Table 9-2 of the Joint Industry OSM Framework.

Woodside has developed a Woodside OSM Bridging Implementation Plan (OSM-BIP), which describes a program of monitoring oil pollution that will be adopted in the event of a hydrocarbon spill incident (Level 2–3) to marine waters. It aligns with the [Joint Industry OSM Framework](#) (AEP, 2021) and describes how this Framework applies to Woodside activities and spill risks.

A series of Operational Monitoring Plans (OMPs) and Scientific Monitoring Plans (SMPs) form part of the Joint Industry OSM Framework and provide detail on monitoring design, standard operating procedures, data management, quality assurance and quality control and reporting.

Table 5-20 lists the Joint Industry OMPs and SMPs that are relevant to the Pyrenees Facility Operations Petroleum Activities Program (PAP). The aims/objectives of each OMP and SMP are listed in Tables 5-1 and 6-1 of the [Joint Industry OSM Framework](#) respectively. Woodside confirms it has reviewed these aims/objectives and determined they are all appropriate to address the potential impacts, risks and response activities of this PAP.

The OSM-BIP is structured so that it can provide a flexible framework that can be adapted to individual spill incidents. The Combined OSM Planning Area (refer to section 2.1 of the OSM-BIP), derived from all Woodside worst-case scenarios, represents the geographical extent of the Woodside OSM-BIP.

The OSM requirements for PAP credible spill scenarios, including monitoring priorities, implementation timeframes and capability is provided in ANNEX C: Pyrenees Facility Operations OSM Activity Specific Assessment, and the response need for Shoreline Clean-Up Assessment (SCAT) is provide in ANNEX D: Resourcing Requirements for OMP: Shoreline Clean-up Assessment.

Woodside will review the initiation criteria for OMPs and SMPs (provided in Table 9-1 [OMPs] and Table 9-2 [SMPs] of the Joint Industry Operational and Scientific Monitoring Framework (AEP, 2021)) during the preparation of the initial IAPs, and subsequent IAPs. If any initiation criteria are met, then that relevant OMP and/or SMP will be activated via the OSM Services Provider.

Table 5-20: Joint industry OSM plans relevant to Pyrenees Facility Operations Petroleum Activities Program

Operational Monitoring	Relevant for the PAP	Scientific Monitoring	Relevant for the PAP
OM1: Hydrocarbon Characterisation	✓	SM1: Water Quality Impact Assessment	✓
OM2: Hydrocarbon in Water Assessment	✓	SM2: Sediment Quality Impact Assessment	✓
OM3: Hydrocarbon in Sediment Assessment	✓	SM3: Intertidal & Coastal Habitat Assessment	✓
OM4a: Dispersant Effectiveness Monitoring (Surface)	✓	SM4: Seabirds and Shorebirds Assessment	✓
OM4b: Dispersant Effectiveness Monitoring (Subsea)	✓	SM5: Marine mega-fauna Assessment	✓
OM5: Rapid Marine Fauna Surveillance	✓	SM6: Benthic habitat Assessment	✓
OM6: Shoreline Clean-up Assessment (SCAT)	✓	SM7: Marine fish and elasmobranch assemblages assessment	✓
		SM8: Fisheries Impact Assessment	✓
		SM9: Heritage Features Assessment	✓
		SM10: Social Impact Assessment	✓

5.11.1 Summary – operational and scientific monitoring

A detailed OSM preparedness assessment is provided in ANNEX C: Pyrenees Facility Operations OSM Activity Specific Assessment and ANNEX D: Resourcing Requirements for OMP: Shoreline Clean-up Assessment.

The ALARP assessment for operational and scientific monitoring (Section 6.11) considers alternate, additional, and/or improved control measures on each selected response technique.

Known, reasonably practicable control measures have been adopted with the cost and organisational complexity of these options determined to be moderate and the overall delivery effectiveness determined to be medium. The OSM program's main objectives can be met, with no additional, alternative or improved control measures providing further benefit.

5.11.2 Environmental performance based on need

Table 5-21: Operational and scientific monitoring

Environmental Performance Outcome		Implement OSM programs to assess and report on the impact, extent, severity, persistence and recovery of sensitive receptors contacted by a spill or affected by spill response.		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
34	OSM arrangements	34.1	Maintain access to OSM expertise qualified to fulfil OSM Implementation Lead role during a Level 2/3 spill event per Joint Industry OSM Framework requirements.	3A, 3B, 3C, 4
		34.2	OSM Implementation Lead responsible for overseeing implementation of OMP and SMP components in accordance with the Woodside OSM Bridging Implementation Plan.	
35	Access to adequate OSM capability to provide both initial and ongoing monitoring	35.1	Maintain contract with third-party OSM Services Provider to provide access to suitably qualified and competent personnel and equipment to assist in the implementation of monitoring in accordance with the capability and resourcing requirements described in Sections 8–10 of the OSM-BIP and the activity-specific capability assessment in Table C-8 and Table C-9	3A, 3B, 3C, 4
		35.2	Obtain monthly capability reports from OSM Service Provider to demonstrate the capability described in Section 10 of the OSM-BIP is available throughout the activity	
		35.3	Annual testing of OSM Service Provider standby arrangements and activation process	
36	Baseline studies assurance	36.1	Annual review of environmental baseline data for all locations where spill modelling has predicted contact at relevant hydrocarbon thresholds within 7 days	3C
37	OSM response	37.1	OMPs and SMPs will be activated in accordance with the initiation criteria provided in Tables 9-1 and 9-2 of the Joint Industry OSM Framework (AEP, 2021)	1
		37.2	Initiation criteria of OMPs and SMPs will be reviewed during the preparation of the initial Incident Action Plan (IAPs) and subsequent IAPs; and if any criteria are met, relevant OMPs and SMPs will be activated	
		37.3	If the OSM Implementation Lead identifies that additional monitoring capability is required beyond that described in Section 10 of the OSM-BIP, the need for these resources will be identified as soon as practicable and mobilised through the OSM Services Provider Contract, which includes provisions for scaling up personnel to meet monitoring program requirements	
		37.4	Decisions regarding co-mobilisation of monitoring teams will be determined following a spill event, as part of the Incident Action Planning process. These decisions will be made by the CIMT in consultation with the OSM Services Provider and relevant stakeholders, with due consideration given to safety, access to sensitive receptors, timing, and data quality requirements	
		37.5	OSM to be conducted in accordance with the Woodside OSM-BIP and, where relevant to the activity, the assessment detailed in ANNEX C: Pyrenees Facility Operations OSM Activity Specific Assessment	
		37.6	Monitoring prioritisation will be undertaken in accordance with the process and checklist provided in Table 13-1 of the OSM-BIP, informed by the guidance in Section C.2 of the OSPRMA	
		37.7	Mobilisation and implementation of OMPs and SMPs will be undertaken in accordance with the indicative timeframes and sequencing described in Section C.3 of the OSPRMA and Part B of the OSM-BIP	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

		37.8	Implementation of OSM will comply with the minimum standards listed in Appendix A of the Joint Industry OSM Framework	
		37.9	Once OSM data reports are drafted they will be peer reviewed by an expert panel for data integrity	
		37.10	OMPs and SMPs will be terminated in accordance with the termination criteria provided in Table 9-1 and 9-2 of the Joint Industry OSM Framework (AEP, 2021)	
38	OSM-BIP maintenance	38.1	Annual review of the OSM-BIP will be conducted according to the criteria in Section 11 the OSM-BIP	3A, 3B, 3C, 4
39	Shoreline Clean-up Assessment Technique (SCAT)	39.1	Mobilisation within 24 hours, in agreement with WA DTMI (for Level 2/3 incidents), deployment of 2 x specialist(s) in SCAT from resource pool for each of the Response Protection Areas (RPAs) with predicted impacts	1, 2, 3B, 3C, 4
		39.2	Reports from OM6: Shoreline Clean-up Assessment will be provided to the IMT daily, detailing the assessed areas to maximise effective utilisation of resources.	1, 3B, 4
		39.3	Shoreline access routes with the least environmental impact identified will be selected by a specialist in SCAT operations	1
		39.4	If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified	1
		39.5	Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines	
		39.6	Vehicular access will be restricted on dunes, turtle nesting beaches and in mangroves	

5.12 Incident Management System

The Incident Management System (IMS) is both a control measure and a measurement criterion. As a control measure, the function of the IMS is to prompt, facilitate and record the completion of three key response planning processes detailed below. As a measurement criterion, the IMS records the evidence of the timeliness of all response actions included in the environmental performance standards and the plans used for the PAP.

As the IMS does not directly remove hydrocarbons spilt into the marine environment, there is no direct relationship to the response planning need.

5.12.1 Incident action planning

The CIMT will be required to collect and interpret information from the scene of the incident to determine support requirements to the site-based IMT, develop an IAP and assist the IMT with the execution of that plan. The site-based Incident Commander (IC) may request the CIMT to complete notifications internally within Woodside, to relevant persons/ organisations and government agencies as required. Depending on the type and scale of the incident, the CIMT IC will be responsible for ensuring the development of the IAP. Incident Action Planning is an ongoing process that involves continual review to confirm the appropriateness of techniques to control the incident for the situation at the time.

5.12.2 Operational NEBA process

In the event of a response, Woodside will confirm that the response techniques adopted at the time of Environment Plan/Oil Pollution Emergency Plan (EP/OPEP) acceptance remain appropriate to reduce the consequences of the spill. This process verifies that there is a continuing net environmental benefit associated with continuing the response technique through the operational NEBA process. This process manages the environmental risks and impacts of response techniques during the spill response. An operational NEBA will be undertaken throughout the response, for each operational period.

The operational NEBA will consider the risks and benefits of conducting and response activity. For example, if vessels are required for access to nearshore or onshore areas, anchoring locations will be selected to minimise disturbance to benthic habitats. Vessel cleanliness would be commensurate with the receiving environment. The operational NEBA will consider the risks and benefits of conducting other response techniques.

The operational NEBA process is also used to terminate a response. Using data from operational and scientific monitoring activities, the response to a hydrocarbon spill will be terminated in accordance with the termination criteria outlined in the Joint Industry OSM Framework (APPEA, 2021). In effect, the operational NEBA will determine whether there is net environmental benefit to continue response operations.

5.12.3 Consultation process

Woodside will consult relevant persons/organisations during the spill response in accordance with internal standards. This process requires that Woodside will:

- Undertake all required notifications (including government notifications) for relevant persons/ organisations in the region (identified in the Oil Pollution First Strike Plan). This includes notification to mariners to communicate navigational hazards introduced through response equipment and personnel.
- In the event of a response, identify and engage with relevant persons/ organisations and continually assess and review.

5.12.4 Environmental performance based on need

Table 5-22: Environmental Performance – Incident Management System

Environmental Performance Outcome		To support the effectiveness of all other control measures and monitor/record the performance levels achieved.		
Control measure		Performance Standard		Measurement Criteria (Section 5.13)
40	Operational SIMA	40.1	Confirm that the response techniques adopted at the time of acceptance remain appropriate to reduce the consequences of the spill within 24 hours.	1, 3A
		40.2	Record the evidence and justification for any deviation from the planned response activities.	
		40.3	Record the information and data from operational and scientific monitoring activities used to inform the SIMA.	
41	Stakeholder engagement	41.1	Prompt and record all notifications (including government notifications) for relevant persons/ organisations in the region	
		41.2	In the event of a response, identification of relevant persons/ organisations will be re-assessed throughout the response period.	
		41.3	Undertake communications in accordance with: - External Communication and Continuous Disclosure Procedure - External Stakeholder Engagement Procedure	
42	Personnel required to support any response	42.1	Action planning is an ongoing process that involves continual review to confirm the appropriateness of techniques to control the incident for the situation at the time.	1, 3B
		42.2	A duty roster of trained and competent people will be maintained to confirm minimum manning requirements are met all year round.	3C
		42.3	Immediately activate the CIMT with personnel filling one or more of the following roles: - CIMT Incident Commander - CIMT Deputy Incident Commander - Operations Section Chief - Planning Section Chief - Logistics Section Chief - Documentation Unit Leader - Safety Officer - Environment Unit Leader - Human Resources Officer - Public Information Officer - Situation Unit Leader - Finance Section Chief - Source Control Section Chief.	1, 2, 3B, 3C, 4
		42.4	Collect and interpret information from the scene of the incident to determine support requirements to the site-based IMT, develop an IAP and assist with the execution of that plan.	
		42.5	Security and Emergency Management advisors will be integrated into CIMT to monitor performance of all functional roles.	
		42.6	Continually communicate the status of the spill and support Woodside to determine the most appropriate response by delivering on the responsibilities of their role.	
		42.7	Follow the Hydrocarbon Spill Australia Regulatory Framework, Operational Plans, FSPs, support plans and the IAPs developed.	
		42.8	Contribute to Woodside's response in accordance with the aims and objectives set by the Incident Commander.	1, 2, 3A, 4
				1, 2, 3B, 3C, 4

5.13 Measurement criteria for all response techniques

Woodside measures compliance with environmental performance outcomes and standards through four primary mechanisms. The performance tables in the previous sections identify which of these four mechanisms monitors the readiness and records the effectiveness and performance of the control measures adopted.

1. The Incident Management System

The Incident Management System (IMS) supports the implementation of the Crisis and Emergency Management Standard. The IMS provides a near real-time, single source of information for monitoring and recording an incident and measuring the performance of those control measures.

The Crisis and Emergency Management Standard defines the management framework, including roles and responsibilities, to be applied to any size incident (including hydrocarbon spills). The organisational structure required to manage an incident is developed in a modular fashion and is based on the specific requirements of each incident. The structure can be scaled up or down.

The Incident Action Plan (IAP) process formally documents and communicates the:

- incident objectives
- status of assets
- operational period objectives
- response techniques (defined during response planning)
- the effectiveness of response techniques.

The information captured in the IMS (including information from personal logs and assigned tasks/close outs) confirms the response techniques implemented remain appropriate to reduce the consequences of the spill. The system also records all information and data that can be used to support the site-based IMT, and development and execution of the IAP.

2. The CEM Competency Dashboard

The CEM Competency Dashboard (the Dashboard) records the number of trained and competent responders that are available across Woodside to participate in a response.

This number varies dependent on expiry of competency certificates, staff attrition, internal rotations, leave and other absences. As such, the Dashboard is designed to identify the minimum manning requirements and to identify sufficient redundancy to cater for the variances listed above.

Figure 5-1 shows the minimum manning numbers for the different hydrocarbon spill response roles and the number of qualified persons against those roles.



Figure 5-1: Example screenshot of the CEM competency dashboard

The Dashboard is one of Woodside's key means of monitoring its readiness to respond. It also demonstrates Woodside's ability to meet the requirements of the environmental performance standards that relate to certain response roles.

Figure 5-2 shows an example of the SCAT role and the training modules required to show competence.

Woodside Energy Role Detail Compliance Report Licence To Operate

Role Name : CIMT SCAT Member Role

Onsite Compliance: 100%

Onsite Compliant People: 13
Minimum Personnel: 10
Onsite People: 17
Total People: 17

Legend:

- Assigned (in Training)
- Completed
- About To Expire
- Expired

Note: Date format is DD/MM/YYYY

Onsite Status	Employee Name	WOPIID	Shift Details	OSR Exercise Participation 3 Yearly Initial	OSR Exercise Participation 3 Yearly Refresher	Shoreline Assessment and Clean Up Course
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 26/10/2023 No Expiry	Completed: 26/10/2023 Expires On: 25/10/2026	Completed: 28/07/2021 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 12/11/2024 No Expiry	Completed: 12/11/2024 Expires On: 12/11/2027	Completed: 03/09/2024 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 17/12/2024 No Expiry	Completed: 17/12/2024 Expires On: 17/12/2027	Completed: 28/07/2021 No Expiry
Onsite	[name]	[wopiid]	Standard Karratha F/Night	Completed: 03/09/2024 No Expiry	Assigned: 03/07/2024	Completed: 03/09/2024 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 16/09/2024 No Expiry	Completed: 16/09/2024 Expires On: 16/09/2027	Completed: 28/07/2021 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 12/11/2024 No Expiry	Completed: 12/11/2024 Expires On: 12/11/2027	Assigned: 22/05/2024
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 18/02/2025 No Expiry	Completed: 18/02/2025 Expires On: 18/02/2028	Completed: 03/09/2024 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 28/07/2021 No Expiry	Completed: 28/07/2021 Expired: 27/07/2024	Completed: 28/07/2021 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 12/11/2024 No Expiry	Completed: 12/11/2024 Expires On: 12/11/2027	Completed: 03/09/2024 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 17/08/2022 No Expiry	Completed: 17/08/2022 Expires On: 16/08/2025	Completed: 28/07/2021 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 12/09/2024 No Expiry	Completed: 12/09/2024 Expires On: 12/09/2027	Completed: 28/07/2021 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 26/05/2022 No Expiry	About To Expire Expires: 25/05/2025	Completed: 28/07/2021 No Expiry
Onsite	[name]	[wopiid]	Standard Karratha F/Night	Completed: 21/11/2024 No Expiry	Completed: 21/11/2024 Expires On: 21/11/2027	Completed: 28/07/2021 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 12/11/2024 No Expiry	Completed: 12/11/2024 Expires On: 12/11/2027	Completed: 28/07/2021 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 03/09/2024 No Expiry	Completed: 27/08/2024 Expires On: 27/08/2027	Completed: 03/09/2024 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 18/06/2019 No Expiry	Completed: 19/06/2019 Expired: 18/06/2022	Completed: 27/09/2018 No Expiry
Onsite	[name]	[wopiid]	Standard Metro Week Perth	Completed: 24/10/2024 No Expiry	Completed: 24/10/2024 Expires On: 24/10/2027	Completed: 03/09/2024 No Expiry

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Figure 5-2: Example screenshot for the SCAT role

Woodside also maintains access to a pool of trained responders composed of, but not limited to, personnel from the following organisations:

- Australian Marine Oil Spill Centre (AMOSC) Core Group
- AMOSC
- Oil Spill Response Limited (OSRL)
- Marine Spill Response Corporation (MSRC)
- Woodside contracted workforce.

3. The Hydrocarbon Spill Preparedness Assurance Process

The Hydrocarbon Spill Response Team uses Woodside's assurance process to track compliance over four key control areas:

- a) **Plans** – confirms all plans (including: Hydrocarbon Spill Australia Regulatory Framework, first strike plans, operational plans, support plans and tactical response plans) are current and in line with regulatory and internal requirements.
- b) **Competency (personnel and testing)** – confirms the competency dashboard is up to date and there are the minimum numbers across CIMT, CMT and hydrocarbon spill response roles. The hydrocarbon spill training plan and exercise schedule, including testing of arrangements is also tracked. The Testing of Arrangements (TOA) register tracks the testing of all hydrocarbon spill response arrangements, key contracts and agreements in place with internal and external parties to ensure compliance.
- c) **Capability (equipment and contracts)** – tracks and monitors capability that could be required in a hydrocarbon incident, including but not limited to: integrated fleet⁹ vessel schedule, dispersant availability, rig/vessels monitoring, equipment stockpiles, tracking buoy locations and the CIMT duty roster.

The assurance process records how each commitment listed in the performance tables above is managed for ongoing compliance monitoring. The level of compliance can be reviewed in real time and is reported on a monthly basis through the CEM Function.

4. The Hydrocarbon Spill Planning Standard, Hydrocarbon Spill Planning Work Instruction (Australia), Hydrocarbon Spill Capability and Competency Standard and Hydrocarbon Spill Response Standard

The Hydrocarbon Spill Planning Standard sets out how to plan and prepare for a liquid hydrocarbon spill to the marine environment. (Note, this standard does not apply to scenarios relating to gas releases in the marine environment). This standard details the requirement for an Oil Pollution Emergency Plan (OPEP) to be developed, maintained, reviewed, and approved by appropriate regulators (where applicable).

The Hydrocarbon Spill Planning Work Instruction (Australia) details planning for hydrocarbon spill response preparedness including:

- Developing OPEPs.
- Defining how spill scenarios are developed on an activity specific basis
- Priority response receptor determination.
- ALARP determination.

The Hydrocarbon Spill Capability and Competency Standard details:

- Developing spill training requirements and ongoing maintenance of training and competency for personnel
- Developing requirements for spill exercising / testing of spill response arrangements
- Maintaining access to identified equipment, personnel and contracts.

⁹ The Integrated fleet consists of vessels from multiple operators that have been contracted to Woodside to undertake a number of duties including hydrocarbon spill response.

- Ensuring compliance and assurance is undertaken in accordance with external and internal requirements.

The Hydrocarbon Spill Response Standard details requirements for appropriate hydrocarbon spill response standards including:

- safeguarding the safety and health of people (responders and communities)
- stopping the source of the spill as quickly as possible
- minimising the environmental and community impact

6 ALARP EVALUATION

This Section should be read in conjunction with Section 5 which is the capability planned for this activity.

6.1 Monitor and evaluate – ALARP Assessment

Alternative, additional and improved control measure options have been identified and assessed against the base capability described in Section 5.1. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.1.1 Monitor and evaluate – Control Measure Options Analysis

6.1.1.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures, are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Aerostat (or similar inflatable observation platform) for localised aerial surveillance.	Lead time to Aerostat surveillance is disproportionate to the environmental benefit. The system also provides a very limited field of visibility around the vessel it is deployed from.	Long lead time to access (>10 days). Each system would require an operator to interpret data and direct vessels accordingly. Requires multiple systems for shoreline use.	Purchase cost per system is approximately A\$300,000.	This option is not adopted as the minimal environmental benefit gained is disproportionate to the cost and complexity of its implementation.	No

6.1.1.2 Additional Control Measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Additional personnel trained to use systems.	Current arrangement provides an environmental benefit in the availability of trained personnel facilitating access to Monitor and evaluate data used to inform all other response techniques. No improvement required.	Woodside considers no improvement can be made, all personnel in technical roles e.g. intelligence unit are trained and competent on the software systems. Personnel are trained and exercised regularly. Use of the software and systems forms part of regular work assignments and projects.	Cost for training in-house staff would be approximately A\$25,000.	This option is not adopted as the current capability meets the need.	No
Additional satellite tracking buoys to enable greater area coverage.	Increased capability does not provide an environmental benefit compared to the disproportionate cost in having an additional contract in place.	Tracking buoy on location at manned facility and additional needs are met from Woodside-owned stocks in King Bay Support Facility (KBSF) and Exmouth or can be provided by service provider.	Cost for an additional satellite tracking buoy would be A\$200 per day or A\$6000 to purchase.	This option is not adopted as the current capability meets the need, but additional units are available if required.	No
Additional trained aerial observers.	Current capability meets need. Woodside has access to a pool of trained, competent observers at strategic locations to allow timely and sustainable response. Additional observers are available through current contracts with AMOSC and OSRL.	Aviation standards and guidelines confirm all aircraft crews are competent for their roles. Woodside maintains a pool of trained and competent aerial observers with various home base locations to be called upon at the time of an incident. Regular audits of oil spill response organisations maintain training and competency.	Cost for additional trained aerial observers would be A\$2000 per person per day.	This option is not adopted as the current capability meets the need, but additional observers are available via response contractors if required.	No

6.1.1.3 Improved Control Measures

Improved Control Measures considered <i>Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Faster turnaround time from modelling contractor.	Improved control measure does not provide an environmental benefit compared to the disproportionate cost in having an additional contract in place.	External contractor on CIMT roster to be called as soon as required. However initial information needs to be gathered by CIMT team to request an accurate model. External contractor has person on call to respond from their own location.	Modelling service with a faster activation time would be achieved via membership of an alternative modelling service at an annual cost of A\$50,000 for 24hr access plus an initial A\$5000 per modelling run.	This option is not adopted as the minimal environmental benefit gained is disproportionate to the cost and complexity of its implementation.	No

Nighttime aerial surveillance.	The risk of undertaking the aerial observations at night is disproportionate to the limited environmental benefit. The images would be of low quality and as such the variable is not adopted.	Flights will only occur when deemed safe by the pilot. The risk of night operations is disproportionate to the benefit gained, as images from sensors (IR, UV, etc). will be low quality. Flight time limitations will be adhered to.	No improvement can be made without risk to personnel health and safety and breaching Woodside’s Golden Safety Rules.	This option is not adopted as the safety considerations outweigh any environmental benefit gained.	No
--------------------------------	--	--	--	--	----

6.1.2 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP:

- alternative
 - none selected
- additional
 - none selected
- improved
 - none selected.

6.2 Source Control via Vessel SOPEP – ALARP Assessment

Alternative, additional and improved control measure options have been identified and assessed against the base capability described in Section 5.2. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.2.1 Source Control via Vessel SOPEP – Control Measure Options Analysis

6.2.1.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures, are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical alternative control measures identified					

6.2.1.2 Additional Control Measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical additional control measures identified					

6.2.1.3 Improved Control Measures

Improved Control Measures considered <i>Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical improved control measures identified					

6.2.2 Selected control measures

Following review of alternative, additional and improved control measures, the following controls were selected for implementation for the PAP:

- alternative
 - none selected
- additional
 - none selected
- improved
 - none selected.

6.3 Source Control – ALARP Assessment

Woodside has based its response planning on the worst-case scenario (as described in Section 2.2). This includes the following selection of source control and well intervention techniques:

- direct remotely operated vehicle (ROV) intervention on Xmas tree
- debris clearance and/or removal
- capping stack
- relief well drilling.

6.3.1 ROV Intervention

Following confirmation of an emergency event, Woodside would mobilise inspection class ROVs to assess the status of the wellhead and Xmas tree. Work class ROVs for well intervention are available through the existing frame agreements.

As Woodside holds frame agreements for vessels along with contracts for ROV providers and pilots, inspection activities using ROVs are expected to commence within seven days of an emergency event.

A hydraulic accumulator contained as part of the SFRT can be mobilised and deployed with well intervention attempted within 11 days.

Table 6-1: ROV timings

	Estimate ROV inspection duration for Pyrenees wells(days)
Source and mobilise vessel with work class ROV	2 days
Liaise with Regulator regarding risks and impacts*	4 days
Undertake ROV Inspection	1 day
TOTAL	7 days*

* Based on timings from the Report into the Montara Commission of Enquiry, submission and discussion of revised documentation for limited activities inside the Petroleum Safety Zone (water deluge operations) to manage personnel risks and impacts was up to 20 days.

6.3.1.1 Safety Case considerations

Woodside has assessed against the NOPSEMA Safety Case guidance (NOPSEMA N-09000-GN1661), confirming that vessels conducting subsea intervention operations are not classified as an “associated offshore place” but as a facility and therefore require the appropriate Safety Case arrangements to be in place. In the event of an emergency, Woodside has access to suitable installation support vessels (ISVs) for well intervention through existing frame agreements. The frame agreements for ISV vessels require the vessels to maintain in-force Safety Case approval covering a range of subsea activities. This would cover the requirement for intervention operations such as subsea manifold installation, maintenance and repair, commissioning, cargo transfer (including bulk liquids) and ROV operations. With frame agreements in place, the credible Safety Case scenario from those presented in Figure 6-3 for implementing this response would be “no Safety Case revision required”. Timeframes for well intervention are detailed in Figure 6-2 and would be implemented concurrently to the actions required by the “no Safety Case” revision scenario detailed in Figure 6-3, therefore, the Safety Case scenario will have no impact on the delivery of the strategy.

6.3.2 Debris clearance and/or removal

The Woodside Source Control Response Procedure details the mobilisation and resource requirements for implementing this strategy. Debris clearance may be required as a prerequisite to deployment of the capping stack. The AMOSC SFRT would be mobilised from Fremantle. The mobilisation of the SFRT would take place in parallel with mobilisation of the capping stack to allow initial ROV surveys and debris clearance to have commenced before the arrival of the capping stack. The SFRT comprises ROV-deployed cutters and tools that are used to remove damaged or redundant items from the wellhead and allow improved access to the well. The SFRT can be mobilised and deployed with well intervention attempted within 11 days.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

6.3.2.1 Safety Case considerations

Woodside has assessed against the NOPSEMA Safety Case guidance (NOPSEMA N-09000-GN1661) and can confirm that vessels conducting debris clearance and removal operations are not classified as an “associated offshore place” but as a facility and therefore require the appropriate Safety Case arrangements in place. In the event of an emergency, Woodside has access to suitable ISVs for these operations through existing frame agreements. The frame agreements for ISVs require the vessels to maintain in-force Safety Case approval covering a range of subsea activities. This would cover the requirement for debris clearance and removal operations such as subsea manifold installation, commissioning, cargo transfer (including bulk liquids) and ROV operations. With frame agreements in place, the credible Safety Case Scenario, from those presented in Figure 6-3 for implementing this response would be “no Safety Case revision required”. Timeframes for debris clearance and removal equipment deployment are detailed in Figure 6-2 and would be implemented concurrently to the actions required by the “No Safety Case” revision scenario detailed in Figure 6-3, therefore, the Safety Case scenario will have no impact on the delivery of the strategy.

6.3.3 Capping stack

The Woodside Source Control Emergency Response Planning Guideline details the mobilisation and resource requirements for implementing capping stack deployment. A capping stack is designed to be installed on a subsea well and provides a temporary means of sealing the well, until a permanent well kill can be performed through either a relief well or well re-entry.

In the event of a loss of well containment, the use of a subsea deployment method such as a heavy lift vessel, which is more commonly used in industry, is a more reliable and, in turn, an ALARP approach. If environmental conditions permit (wind speed, wave height, current and plume radius), deployment of a capping stack with a heavy lift vessel with a 150 T crane capacity in shallower waters or 250 T crane in deeper waters could be feasible.

Woodside assumes that sourcing conventional capping stack deployment vessels would be per the Woodside Source Control Emergency Response Planning Guideline. This has pre-identified vessel specifications for the capping stack deployment. Woodside maintains several frame agreements with various vessel service providers and maintains the ability to call off services with a capping stack and debris clearance agreement.

Table 6-2 and Figure 6-2 detail the expected 16-day timing breakdown for mobilisation of a capping stack to site. Woodside will monitor the conditions around the wellsite and deployment for a well intervention attempt will be undertaken once plume size is acceptable and safety and metocean conditions are suitable.

Table 6-2: Capping stack mobilisation timings

Step	Timing (days)	Cumulative (days)
Initial response from WWC post notification by Woodside	0.5	0.5
Build-up and testing of capping stack	2.5	3.0
Locate, contract and mobilise vessel and crews to Singapore (expected to be 3 days to mobilise from Singapore region or 6 days to mobilise from Australia region)	3.0	6.0
Preparation and loading of the capping stack from WWC Singapore holding facility on to vessel. Marine assurance activity	2.0	8.0
IMS inspections, marine warranty surveyor, quarantine clearance	1.0	9.0
Transit from Singapore to North West Shelf	7.0	16.0
Total	16 days	

6.3.3.1 Safety Case considerations

Woodside has assessed against the NOPSEMA Safety Case guidance (NOPSEMA N-09000-GN1661) and can confirm that vessels conducting deployment of the capping stack are not classified as an “associated offshore place” but as a facility and therefore require the appropriate Safety Case arrangements in place.

The 16-day timeframe to mobilise the vessel is based on the following assumptions:

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

- An existing frame agreement vessel is located outside the region with approved Australian Safety Case.
- A Safety Case revision and scope of validation is required.
- The vessel meets the technical requirements for deploying capping stack as per the Source Control Emergency Response Planning Guideline.
- The vessel has an active heave compensated crane, rated to at least 150 T for shallow waters or 250 T in deeper waters and at least 90 m in length and a deck capacity to hold at least 110 T of capping stack.

Timeframes for capping stack deployment are included in Table 6-2 and Figure 6-2. These activities would be implemented concurrently with the actions required for the Safety Case revision development scenarios detailed in Figure 6-3 and Table 6-4.

Woodside will execute a capping stack response within the timeframes detailed in Table 6-2 and Figure 6-2, dependent upon presence of required safety and metocean conditions. Woodside has considered a broad range of alternate, additional, and improved options as outlined in Section 6.3.5.

6.3.4 Relief Well drilling

The options analysis detailed in this section considers options to source, contract and mobilise a MODU and obtain necessary regulatory approvals to meet timelines for relief well drilling. The screening for relief well drilling MODUs is based on the following three approaches and is illustrated in Figure 6-1:

- Primary – review internal Woodside drilling programs and MODU availability to source an appropriate MODU operating within Australia with an approved Safety Case
- Alternate – source and contract a MODU through AEP MOU that is operating within Australia with an approved Safety Case
- Contingency – source and contract a MODU outside Australia with an approved Australian Safety Case.

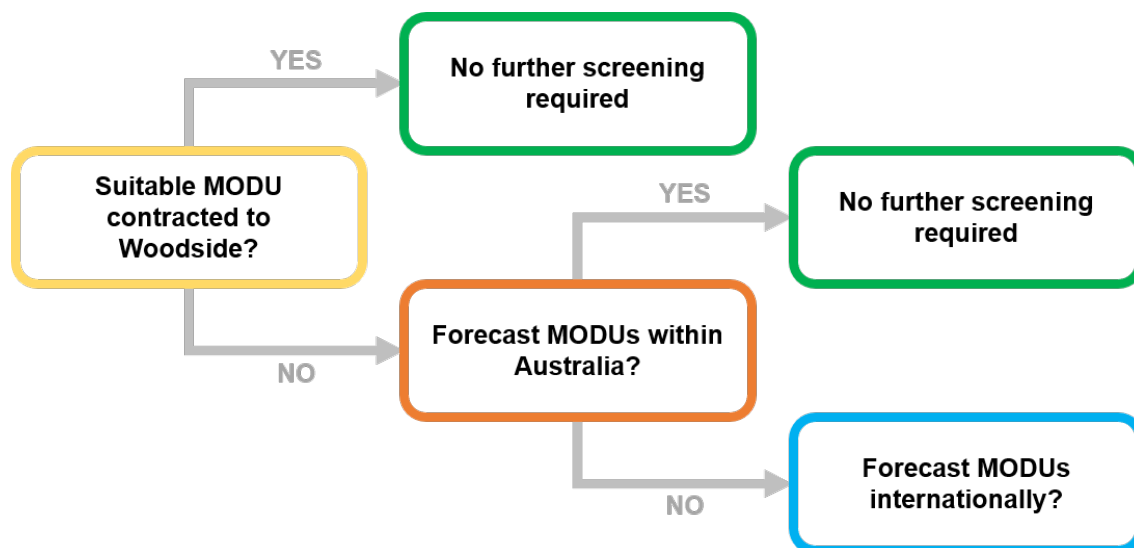


Figure 6-1: Pyrenees Operations process for sourcing relief well MODU

Screening of a relief well MODU from international waters is undertaken only if required, i.e. there is low confidence in local (Australian) availability. The capability, location and Australian Safety Case status is assessed for each Woodside contracted MODU. In the event the Woodside contracted MODUs are unsuitable, screening is extended to all MODUs operating in Australian Waters.

Based on the detail provided, the primary and alternate approaches are expected to be achieved within the 21-day period.

The internal and external availability of MODUs, plus MODU activities of registered operators and MODUs with approved Safety Cases, are tracked by Woodside on a monthly basis to allow the best available options to be sourced and utilised in the event of the worst-case scenario.

If the above forecast indicates a gap in availability of a suitable MODU for relief well drilling within Australia, screening would be extended to MODUs with a valid Safety Case outside Australia. If an international MODU with an Australian Safety Case is not identified, an internal review will be undertaken, NOPSEMA notified, and the issue tabled at the AEP DISC. A review of the significance of the change in risk will be undertaken in accordance with Woodside's environment management of change requirements and relevant regulatory triggers. The aforementioned lookahead process would allow two years' warning of any potential gap. Woodside will seek to execute relief well drilling in the fastest possible timeframe.

The detail of these arrangements demonstrates that the risks have been reduced to ALARP and an acceptable level through the control measures and performance standards outlined in Section 5.3.

6.3.4.1 Relief Well drilling timings

The duration of a blowout (from initiation to a successful kill) is assessed as 69 days for the Pyrenees Operations PAP. Relief wells for other wells within the field are expected to be similar duration.

Details on the steps and time required to drill a relief well is shown in Table 6-3. DP and moored MODUs are suitable for the Pyrenees Operations PAP. A moored MODU has been used as the basis for the time estimate below.

To validate the effectiveness of the relief MODU supply arrangements through the AEP MoU, an exercise to test the 21-day mobilisation period forms part of Woodside's three-yearly Hydrocarbon Spill Arrangements Testing Schedule. Testing of these arrangements are facilitated by an external party and includes suspension of the assisting operator's activities, contracting the MODU, vessel Safety Case revision and transit to location.

Table 6-3: Relief well drilling timings (aligned to the Woodside Worst Case Discharge Modelling Procedure)

Estimated Relief Well Duration		Moored Days
Rig Mobilisation		
Secure and suspend well. Complete Relief well design. Secure relief well materials.	8.0	21 days
Transit to location based on mobilisation from within the region	2.0	
Backload and loadout bulks and equipment, complete internal assurance of relief well design.	2.0	
Contingency for unforeseen event	9.0	
Mooring activities and relief well construction operations	34	
Intersection & well kill comprising the following stages:		
Drill out shoe, conduct formation integrity test and drill towards intersection point	1.5	14 days
Execute well-specific ranging plan to accurately intersect wellbore in minimum timeframe	9.5	
Pump kill weight drilling fluid per the relief well plan. Confirm well is static with no further flow	0.5	
Contingency for unforeseen technical issues	2.5	
Total discharge duration	69	

Woodside has considered a broad range of alternate, additional, and improved options as outlined in Section 6.3.5.

Intersect and kill duration is estimated at 14 days. This is a moderately conservative estimate. During the intersect process, the relief well will be incrementally drilled and logged to accurately approach and locate the existing well bore. This will result in the highest probability of intersecting the well on the first attempt and thus will reduce the overall time to kill the well.

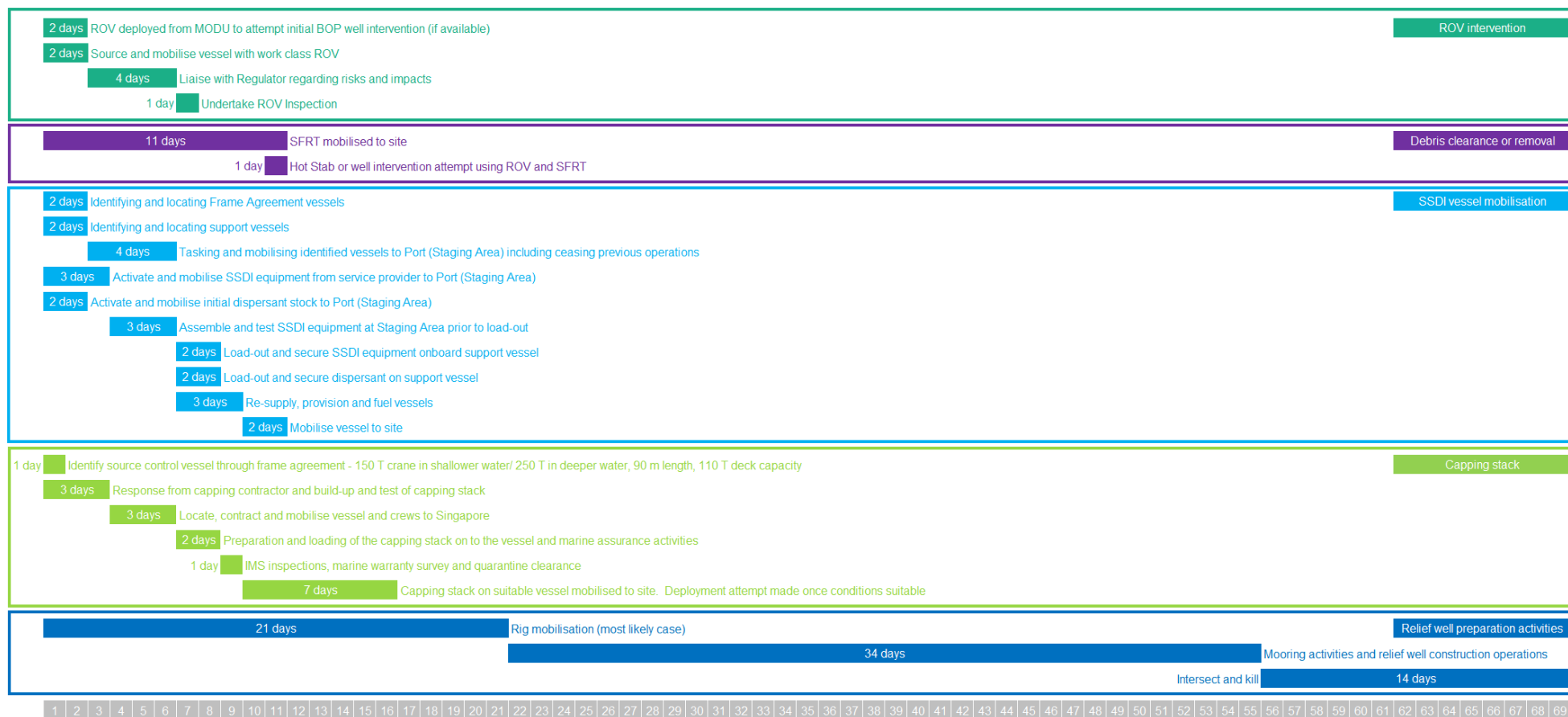


Figure 6-2: Source control and well intervention response strategy deployment timeframes for Pyrenees Stickle-4H1 well.

6.3.4.2 Safety Case considerations

Woodside recognises that it will not be the Operator or holder of the Safety Case for the MODU and/or vessels involved in relief well activities. If a revision to the Operator's Safety Case is required for relief well drilling, Woodside has identified measures to enable timely response and optimise preparedness as far as practicable that can be undertaken to expedite a straightforward Safety Case revision for a MODU/vessel to commence drilling a relief well. Performance standards associated with these measures have been included in Section 5.3.

These include:

- access to Safety and Risk discipline personnel with specialist knowledge
- monthly monitoring internal and external MODUs and vessel availability in the region and extended area through contracted arrangements, with a two-year lookahead
- prioritisation of MODUs/vessels with current or historical contracting arrangements with Woodside maintaining records of previous contracting arrangements and companies, and all current contracts for vessels and MODUs that are required to support Woodside in the event of an emergency
- leverage mutual aid arrangements such as the AEP MOU for vessel and MODU support
- Woodside Planning and Logistics, and Safety Officers (on-roster/ call 24/7) who can articulate need for, and deliver Woodside support, in key delivery tasks including those sitting with potential outside operators
- ongoing strategic industry engagement and collaboration with NOPSEMA to work toward time reductions in regulatory approvals for emergency events.

Woodside has identified three Safety Case revision development and submission scenarios for a MODU and plotted these alongside the relief well preparation activities in Figure 6-3. The assumptions for each of the cases are detailed in subsequent Table 6-4.

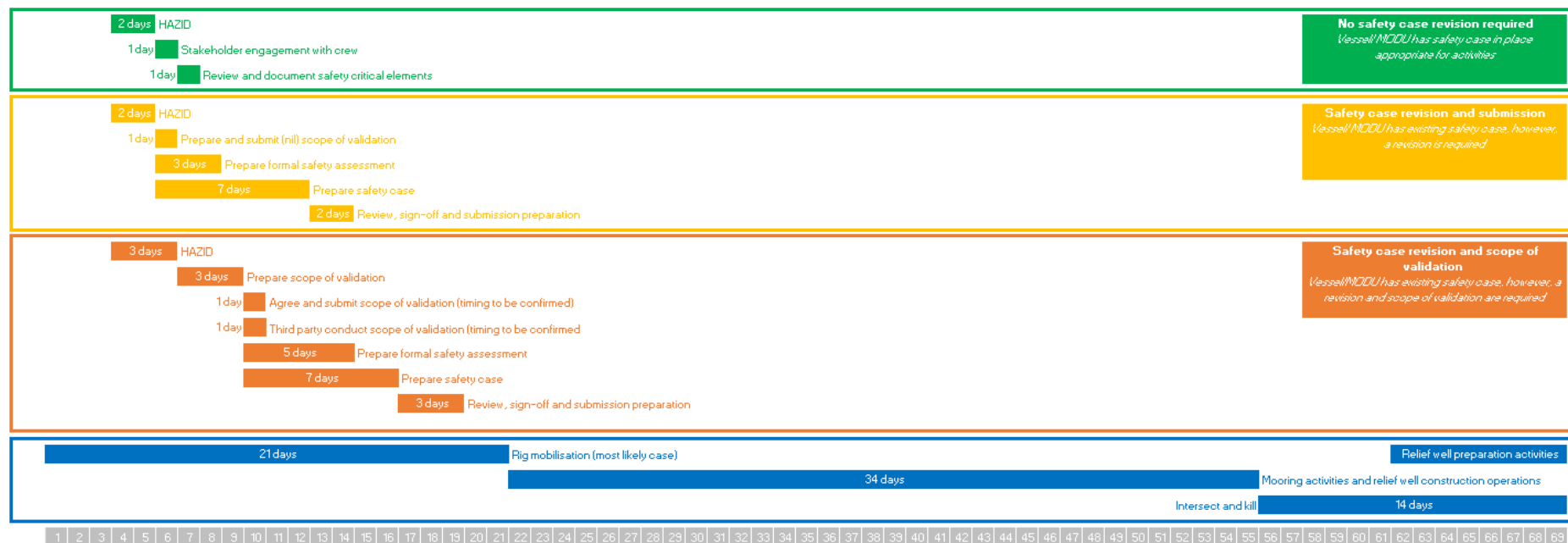


Figure 6-3: Timeline showing Safety Case revision timings alongside other relief well preparation activity timings for Pyrenees Wells

Table 6-4: Safety Case revision conditions and assumptions

Case	No Safety Case revision required	Safety Case revision and submission	Safety Case revision and scope of validation
Description	Vessel/ MODU has a Safety Case in place appropriate for activities.	Vessel/ MODU has an existing Safety Case, however, a revision is required.	Vessel/ MODU has an existing Safety Case, however, a revision is required plus scope of validation.
Conditions/ assumptions	Assumes that existing vessel/ MODU Safety Case covers working under the same conditions or the loss of containment is not severe enough to result in any risk on the sea surface.	Safety Case timing assumes the vessel/ MODU selected and crew are available for workshops and Safety Case studies.	Safety case timing assumes the vessel/ MODU selected and crew are available for workshops and Safety Case studies.
		Assumes nil scope of validation. This assumes that the vessel for source control allows for working in a hydrocarbon environment and control measures are already in place in the existing Safety Case. For MODU, it assumes that the relief well equipment is already part of the MODU facility and MODU Safety Case.	Validation will be required for new facilities only. The time needed for the validator to complete the review (from the last document received) and prepare validation statement is undetermined. This is not accounted for here as the Safety Case submission is not dependent on the validation statement, however the Safety Case acceptance is.
		Assumes Safety Case preparation is undertaken 24/7.	Assumes Safety Case preparation is undertaken 24/7.

6.3.5 Source Control – Control Measure Options Analysis

The assessment described in Section 6.3.1, 6.3.2, 6.3.3 and 6.3.4 outline the primary, alternate and contingency approaches respectively that Woodside would implement for relief well drilling.

Woodside has outlined the options considered against the activation, mobilisation (improved options), deployment (alternate and additional options) process described in Section 2.1.1 that provides an evaluation of:

- predicted cost associated with adopting the option
- predicted change/environmental benefit
- predicted effectiveness/feasibility of the option.

Alternative, additional and improved control measure options have been identified and assessed against the base capability described in Section 5. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are disproportionate to the environmental benefit, and/or the option is not reasonably practical. The control measure options are defined as:

- Alternative control measures are potentially more effective and/or novel control measures that are evaluated as replacements for an adopted control
- Additional control measures are evaluated in terms of their ability to reduce an impact or risk when added to the existing suite of control measures
- Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility.

Options where there is not a clear justification for their inclusion or exclusion may be subject to a detailed assessment.

6.3.6 Activation/Mobilisation – Control Measure Options Analysis

This section details the assessment of alternative, additional or improved control measures that were considered to meet the selected level of performance in Section 5.3 and reduce the risk to ALARP. The alternative, additional and improved control measures that have been assessed and selected are highlighted in green and the relevant performance of the selected control is cross referenced. Items highlighted in red have been considered and rejected on the basis that they are not feasible or the costs are disproportionate compared to the environmental benefit.

6.3.6.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures, are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Standby MODU shared for all Woodside activities	A standby MODU shared across all Woodside activities is likely to provide a moderate environmental benefit as it may reduce the 21-day sourcing, contracting and mobilisation time by up to 10 days (to 11 days). This would reduce the volume and duration of release and may reduce impacts on receptors and sensitivities.	This option is not considered feasible for all Woodside activities as there are a large range of well depths, complexities, geologies and geophysical properties across all Woodside's operations. The large geographic area of Woodside activities also means that the MODU is unlikely to be in the correct location at the right time when required.	Even with costs shared across Woodside operations, the costs (approximately A\$219 m per annum, A\$1.095 bn over the five years) of maintaining a shared MODU are considered disproportionate to the environmental benefit potentially achieved by reducing mobilisation times by up to 10 days.	The costs and complexity of having a MODU and maintaining this arrangement for the duration of the PAP are disproportionate to the environmental benefit gained above finding a MODU through the MoU agreement for all spill scenarios.	No
Standby MODU shared across AEP MOU Titleholders	A standby MODU shared across all titleholders who are signatories to the AEP MoU is likely to provide a minor environmental benefit as it may reduce the 21-day sourcing, contracting and mobilisation time by up to seven days (to 14 days). This would reduce the volume and duration of release and may reduce impacts on receptors and sensitivities.	This option is not considered feasible for many titleholders due to the remote distances in Australia as well as a substantial range of well depths, types, complexities, geologies and geophysical properties across a range of Titleholders.	As the environmental benefit is only considered minor and the reduction in timing would only be for the mobilisation period (reduction from 21 days to 14 days) the costs are considered disproportionate to the minor benefit gained.	The costs and complexity of having a MODU and maintaining a shared arrangement for the duration of the PAP are disproportionate to the environmental benefit gained above finding a MODU through the MoU agreement for all spill scenarios.	No

6.3.6.2 Additional Control Measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Implement and maintain minimum standards for Safety Case development	Woodside's contingency planning consideration would be to source a rig from outside Australia with an existing Safety Case. This would require development and approval of a Safety Case revision for the rig and activities prior to commencing well kill operations.	This option is considered feasible and would require Woodside to develop minimum standards for safe operations for relevant Safety Case input along with maintaining key resources to support review of Safety Cases. Woodside would not be the operator for relief well drilling and would therefore not develop or submit the Safety Case revision. Woodside's role as Titleholder would be to provide minimum standard for safe operations that MODU operators would be required to meet and/or exceed.	Woodside has outlined control measures and performance standards regarding template Safety Case documentation and maintenance of resources and capability for expedited Safety Case review.	This option has been selected based on its feasibility, low cost and the potential environmental benefits it would provide.	Yes

6.3.6.3 Improved Control Measures

Improved Control Measures considered <i>Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Monitor internal drilling programs for rig availability	Woodside may be conducting other campaigns that overlap with the PAP, potentially providing availability of a relief well drilling rig within Woodside. The environmental benefit of monitoring other drilling programs internally is for Woodside to understand what other rigs may be rapidly available for relief well operations if required, potentially reducing the time to drill the relief well, resulting in less hydrocarbon to the environment.	Woodside monitors MODU availability through market intelligence services. Woodside will continually monitor other drilling and exploration activities within Australia and as available throughout the region to track rigs and explore rig availability during well intervention operations.	Associated cost of implementation is minimal to the environmental benefit gained. Related control measures and performance standards are included in Section 5.	This option is a low-cost control measure with potential to reduce the volume of hydrocarbon released to the environment.	Yes
Monitor external activity for rig availability	The environmental benefit achieved by monitoring drilling programs and rig movements across industry provides the potential for increased availability of suitable rigs for relief well drilling. Additional discussions with other titleholders may be undertaken to potentially gain faster access to a rig and reduce the time taken to kill the well and, therefore, the volume of hydrocarbons released.	Woodside will source a relief well drilling rig in accordance with the AEP MOU on rig sharing in the unlikely event this is required. Woodside will continually engage with other Titleholders and Operators regarding activities within Australia and as available throughout the region to track rigs and explore rig availability during well intervention operations. Commercial and operational provisions do not allow Woodside to discuss current and potential drilling programs in detail with other titleholders.	Associated cost of implementation is moderate to the environmental benefit gained.	This option is a low-cost control measure with potential to reduce the volume of hydrocarbon released to the environment.	Yes
Monitor status of Registered Operators/ Approved Safety cases for rigs	Woodside can monitor the status of Registered Operators for rigs operating within Australia (and therefore Safety Case status). Woodside can monitor monthly the status of Registered Operators for rigs operating within Australia (and therefore Safety Case status). This allows for a prioritised selection of rigs in the event of a response with priority given to those with an existing Safety Case.	The environmental benefit of monitoring rigs is for Woodside to understand what other rigs may be rapidly available for relief well operations if required, potentially reducing the time to drill the relief well, resulting in less hydrocarbons released to the environment.	The cost is minimal.	This option is a low-cost control measure with potential to reduce the volume of hydrocarbon released to the environment.	Yes

6.3.7 Deployment Options Analysis

6.3.7.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures, are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical alternative control measures identified					

6.3.7.2 Additional Control Measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Offset capping alternative to conventional capping stack deployment	While the use of an offset capping system could reduce the quantity of hydrocarbon entering the marine environment, the mobilisation lead times for both a capping system and required vessels/ support equipment, would minimise any environmental benefit gained over conventional capping.	The base case considerations for offset installation equipment (OIE) requires a coordinated response by four to seven vessels working simultaneously outside of the 500m exclusion zone, introducing complex SIMOPS issues. Due to the OIE's scale, fabrication of equipment (e.g. mooring anchors) outside of the contractor's scope of supply is likely to require	Due to risks, uncertainty and complexity of this option, and the inability to realise any environmental gains, any cost would be disproportionate to the benefits gained.	Woodside has confidence in availability of suitable relief well MODUs across the required drilling time frame thus the OIE would provide no advantage. Implementation of OIE has been assessed as a complex and unfeasible SIMOPs operation, precluded by a combination of the site-specific metocean and	No

		engagement of international suppliers, further increasing complexity and uncertainty in associated time frames. Screening indicates that mobilising some components of the OIE (which are based in Italy) can only be done by sea and is likely to erode any time savings realised through killing the well via a relief well. The March 2019 OSRL exercise in Europe tested deployment of the OIE. It highlighted that a >600 T crane vessel would be required for deployment to allow for a useable hook-height for the crane to conduct the lift of the carrier. Vessels with such capability and a current Australian vessel Safety Case are not locally or readily available.		worst-case discharge conditions at the Pyrenees location. Implementation of a novel technology such as OIE culminates in low certainty of success while at the same time increasing associated health and safety risks. As such, the primary source control response and ALARP position remains drilling a relief well.	
Dual vessel capping stack deployment	While the use of dual vessel to deploy the capping system could reduce the quantity of hydrocarbon entering the marine environment, this is an unproven technology. Additionally, the feasibility issues surrounding a dual vessel capping deployment together with mobilisation lead times for both a capping system and required vessels and support equipment, would minimise any environmental benefit gained over conventional capping.	A dual vessel deployment is somewhat feasible provided a large enough deck barge can be located. Deck barges of 120 m are not, however, very common and will present a logistical challenge to identify and relocate to the region. Further, the longer length barges may need mooring assist to remain centred over the well. The capping stack would be handed off from a crane vessel to the anchor handler vessel (AHV) work wire outside of the exclusion zone. The AHV would then manoeuvre the barge into the plume to get the capping stack over the well. In this method, the barge would be in the plume, but the AHV and all personnel would be able to maintain a safe position outside of the gas zone. The capping stack would be lowered on the AHV work wire so a crane would not be required on the barge.	Due to there being minimal environmental benefits gained by the prolonged lead times needed to execute this technique, plus a potential increase in safety issues, any cost would be disproportionate to the benefits gained.	Given there is minimal environmental benefit and an increase in safety issues surrounding SIMOPS and deployment in shallow waters, this option would not provide an environmental or safety benefit.	No
Subsea Containment System alternative to capping stack deployment	While the use of a subsea containment system could reduce the quantity of hydrocarbon entering the marine environment, this is an unproven technology. Additionally, the system is unlikely to be feasibly deployed and activated for at least 90 days following a blowout due to equipment requirements and logistics. No environmental benefit is therefore predicted given the release duration is 69 days before drilling of a relief well under the adopted control measure.	The timing for mobilisation, deployment and activation of the subsea containment system is likely to be >90 days which is longer than the expected 69 days relief well drilling operations based on the location, size and scale of the equipment required, including seabed piles that can only be transported by vessel.	Woodside has investigated the logistics of reducing this timeframe by pre-positioning equipment but the costs of purchasing dedicated equipment by Woodside for this PAP are not considered reasonably practical and are considered disproportionate to the environmental benefit gained.	This option would not provide an environmental benefit.	No
Contract in place with Wild Well Control Inc and Oceaneering	Woodside has an agreement in place with Wild Well Control Inc and Oceaneering to provide trained personnel in the event of an incident. This will make competent personnel available in the shortest possible timeframe.	Having contracts in place to access trained, competent personnel in the event of an incident would reduce mobilization times. This option is considered reasonably practicable.	Minimal cost implications – Woodside has standing contract in place to provide assistance across all activities.	This control measure is adopted as the costs and complexity are not considered disproportionate to any environmental benefit that might be realised.	Yes

6.3.7.3 Improved Control Measures

Improved Control Measures considered <i>Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Maintaining relief well drilling supplies	There is not predicted to be any reduction in relief well timing or spill duration from Woodside maintaining stocks of drilling supplies (mud, casing, cement, etc.)	It would be feasible to source some relief well drilling supplies such as casing but the actual composition of the cement and mud required will need to be specific to the well. This option is also not deemed necessary as the lead time for sourcing and mobilising these supplies is included in the 21 days for sourcing and mobilising a rig.	The capital cost of Woodside purchasing relevant drilling supplies is expected to be approximately A\$600,000 with additional costs for storage and ongoing costs for replenishment. These costs are considered disproportionate to the environmental benefit gained.	This option would not provide an environmental benefit.	No

6.3.8 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP:

- alternative
 - none selected
- additional
 - implement and maintain minimum standards for Safety Case development
 - contract in place with Wild Well Control Inc and Oceaneering to supply trained, competent personnel
- improved
 - monitor internal drilling programs for MODU availability
 - monitor external activity for MODU availability
 - monitor status of Registered Operators / Approved Safety cases for MODUs.

6.4 Subsea Dispersant Injection – ALARP Assessment

Alternative, additional and improved control measure options have been identified and assessed against the base capability described in Section 5.4. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.4.1 Subsea Dispersant Injection timing

The scope of existing safety cases for Frame Agreement vessels includes all relevant activities for SSDI operations. Depending on the location and availability of vessels, Woodside expects the SSDI capability can be mobilised to site for deployment within 12 days. This may be able to be achieved faster if vessels are closer to appropriate staging areas and not already involved in other operations. The following steps are included within the indicative timeframe and many of these are expected to be concurrent activities, as shown in Figure 6-2.

1. Identifying and locating frame agreement vessels (1-2 days)
2. Identifying and locating support vessels (1-2 days)
3. Tasking and mobilising identified vessels to port (staging area) including ceasing previous operations (2-4 days)
4. Activate and mobilise SSDI equipment from service provider to port (Staging Area) (2-3 days)
5. Activate and mobilise initial dispersant stock to port (Staging Area) (1-2 days)
6. Assemble and test SSDI equipment at staging area prior to load-out (2-3 days)
7. Re-supply, provision and fuel vessels (1-2 days)
8. Load-out and secure SSDI equipment onboard vessel (1-2 days)
9. Load-out and secure dispersant on support vessel (1-2 days)
10. Contingency for unforeseen events (1 day).

6.4.2 Response Planning: Loss of well containment (CS-01)

Following a loss of well control it may take 2-5 days to complete a risk assessment, discuss and agree appropriate control measures with NOPSEMA (Safety, Environment and Well Integrity divisions), and monitor the operating environment within the Petroleum Safety Zone around a well or facilities. Subsea dispersant injection is unlikely to be deployed until approximately day 12, subject to subsea ROV survey of the site and agreement of risk assessment and recommended control measures for personnel safety.

Dispersant efficacy testing confirms that the Pyrenees Crude will be amenable to dispersant use with an approximately range of effectiveness from 71-74.5%. These results were determined in ideal laboratory conditions and represent the expected treatment of hydrocarbons that are contacted. Based on response planning assumptions outlined in Section 5.2.1, the subsea dispersant injection system (as part of the SFRT package) is able to deliver approximately 60-75 m³ per day on a continuous 24 hours per day, 7-day basis.

Subsea dispersant modelling undertaken for the loss of well containment scenario (CS-01) indicates that shoreline accumulations may be reduced at 30 of 47 possible receptors (64%) following the use of SSDI – see ANNEX E: Dispersant modelling results. The largest decreases are at predicted for Exmouth, Ningaloo Coast WH, MP and State MP and Cape Range.

For the purpose of capability demonstration below, Woodside has shown that once the SSDI system arrives and is able to be deployed safely, a capability exists to commence and continue SSDI until the well is killed (approximately day 69).

Table 6-5: Response Planning – Subsea Dispersant Injection

Subsea Dispersant Injection (SSDI)		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7	2	3	4	2	3
Oil Release													
R1	Oil Release Rate - m ³	429	429	429	429	429	429	429	3,005	3,005	3,005	12,019	5,581
A Capability available - m³													
A1	Predicted oil volume treated by SSDI (lower)	0	0	0	0	0	0	0	3,600	12,600	12,600	50,400	50,400
A2	Predicted oil volume treated by SSDI (upper)	0	0	0	0	0	0	0	31,500	31,500	31,500	126,000	126,000
A3	Dispersant application volume (lower)	0	0	0	0	0	0	0	120	420	420	1,680	1,680
A4	Dispersant application volume (upper)	0	0	0	0	0	0	0	525	525	525	2,100	2,100
B Subsea release oil remaining - m³													
B1	Predicted oil volume not treated (lower)	429	429	429	429	429	429	429	-595	-9,595	-9,595	-38,381	-44,819
B2	Predicted oil volume not treated (upper)	429	429	429	429	429	429	429	-28,495	-28,495	-28,495	-113,981	-120,419

A1 and A2 – the upper and lower volumes in m³ that subsea dispersant injection may be able to treat (based on response planning assumptions in Section 5.2.1 and volumes in A3 and A4). These are based on a 1:50 ratio for A1 and a 1:100 ratio for A2

A3 and A4 – the upper and lower volumes in m³ of the associated dispersant injection volumes for A1 and A2,

B1 and B2 – the upper and lower volumes in m³ of the subsea oil that is not treated on each day, following predicted treatment outlined in A1 and A2 (oil released minus predicted oil volume treated (R1-A1)).

Both the Stickle 4H-1 well location and floating hydrocarbons arising from CS-01 are predicted to largely remain within the Zone of Application (ZoA) during a loss of well containment event (see Figure 2-6). The dispersant injection operation will be monitored subsea to ensure ongoing efficacy and also for any change in conditions that has the potential to cause the dispersed plume to migrate outside of the ZoA. The ZoA is based on the following criteria:

- 10 km from Commonwealth Marine Parks (excluding 'Multiple Use Zones')
- 10 km from State Marine Parks
- 10 km from Heritage List areas
- >20 m water depth
- 4 km from State Waters
- Within the Mainland Australian EEZ
- Avoiding sensitive reefs and shoals

If SSDI is deemed appropriate, Woodside has contracted access to both SSDI application equipment and the OSRL Global Dispersant Stockpile to enable ongoing subsea dispersant injection operations. The SSDI equipment and available dispersant is capable of treating 100% of the released oil from deployment on day 12.

Woodside acknowledges that no single response strategy or even combination of offshore response strategies will treat or remove 100% of hydrocarbons. Woodside would require the inclusion of other response techniques to be initiated concurrently. Woodside is committed to a realistic, scalable response capability that is commensurate to the level of risk and able to be practically implemented and sustained within the logistical constraints of remote areas.

6.4.3 Subsea Dispersant Injection – Control Measure Options Analysis

6.4.3.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Dedicated, contracted vessel for SSDI mobilisation and deployment (based in Australia)	Reducing the mobilisation and deployment time of the SSDI through vessel standby/pre-positioning is unlikely to result in a significant change in environmental benefit. Under current arrangements the SSDI system can be on location from approximately day 12 depending on vessel availability where a dedicated, contracted vessel may enable the SSDI system on location from day 10. Once deployed the SSDI will be utilised to increase entrainment of released oil and to ensure safe operations for surface deployment of SFRT and other surface response techniques.	A modified Construction vessel or vessels with suitable remote operated underwater vehicles (ROVs) is required to load, transport and deploy the SSDI system. The critical element in deployment of the SSDI is the availability of an appropriate vessel. Achieving a shorter mobilisation would require the vessel's work schedule to be permanently restricted so as to permit a quicker return to Exmouth, reducing the utilisation of the vessel, or the permanent retention of a dedicated vessel. Neither option is considered reasonably practicable. Acceleration is limited by availability of the SSDI system mobilisation and this control measure is not expected to reduce the estimated extent and magnitude of impact from a well release on receptor locations compared with the proposed mobilisation plan using pre-identified or vessels available through frame agreements.	A dedicated vessel on standby in Exmouth, ready to load is estimated to cost A\$20 m per annum. This is considered cost-prohibitive for the PAP.	This response strategy is not considered as a primary response and this control measure is not adopted as the cost, complexity and feasibility is considered disproportionate to the minor environmental benefit that might be gained	No
Shared, contracted vessel for SSDI mobilisation and deployment (shared between Titleholders)	Reducing the mobilisation and deployment time of the SSDI through vessel standby/pre-positioning is unlikely to result in a significant change in environmental benefit. Under current arrangements the SSDI system can be on location from approximately day 12 depending on vessel availability where a dedicated, contracted vessel may enable the SSDI system on location from day 10. Once deployed the SSDI will be utilised to increase entrainment of released oil and to ensure safe operations for surface deployment of SFRT and other surface response techniques.	A modified Construction vessel or vessels with suitable remote operated underwater vehicles (ROVs) is required to load, transport and deploy the SSDI system. The critical element in deployment of the SSDI is the availability of an appropriate vessel. Achieving a shorter mobilisation would require the vessel's work schedule to be permanently restricted so as to permit a quicker return to Exmouth, reducing the utilisation of the vessel, or the permanent retention of a dedicated vessel. Neither option is considered reasonably practicable. This option is not considered feasible for a number of Titleholders due to the remote distances in Australia as well as a substantial range of well depths, types, complexities, geologies and geophysical properties across a range of Titleholders. Additionally, acceleration is limited by availability of the SSDI system mobilisation and this control measure is not expected to reduce the estimated extent and magnitude of impact from a well release on receptor locations compared with the proposed mobilisation plan using pre-identified or vessels available through frame agreements.	A dedicated vessel on standby in Exmouth, ready to load is estimated to cost A\$20 m per annum. As a shared cost across a range of titleholders, this may be approximately A\$2 m each. This is considered cost-prohibitive for the PAP.	This response strategy is not considered as a primary response and this control measure is not adopted as the cost, complexity and feasibility is considered disproportionate to the minor environmental benefit that might be gained by 1-2 days of additional subsea dispersant injection.	No

6.4.3.2 Additional Control Measures

Additional Control Measures considered*Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures*

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Pre-identifying/ contracting vessels through Frame Agreements for SSDI loading and operations	Ensuring the mobilisation and deployment time of the SSDI through vessel availability/ contracting strategy is likely to result in a moderate environmental benefit as using these arrangements, the SSDI will be on location from approximately day 12.	Achieving a shorter mobilisation would require the vessel being on standby with limited duties to permit a faster return to Exmouth and this is not considered reasonably practical. Woodside has established frame agreements with vessel providers and will track availability of similar vessels. These options are both considered reasonably practicable.	Associated cost of implementation is minimal to the environmental benefit gained.	This control measure is adopted as the costs and complexity are not considered disproportionate to any environmental benefit that might be realised.	Yes

6.4.3.3 Improved Control Measures

Improved Control Measures considered*Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility*

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical improved control measures identified					

6.4.4 Selected Control Measures

Following review of alternative, additional and improved control measures, the following controls were selected for implementation for the PAP.

- alternative
 - none selected
- additional
 - pre-identifying/ contracting vessels through Frame Agreements for SSDI loading and operations
- improved
 - none selected.

6.5 Surface Dispersant Application – ALARP Assessment

Alternative, additional and improved control measure options have been identified and assessed against the base capability described in Section 5.5. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.5.1 Existing capability – Surface Dispersant Application

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours per day, 7 days per week. The capability presented below is displayed as ranges from lower to upper to incorporate operational factors such as weather, daylight, crew/vessel/aircraft location and duties prior to deployment, survey or classification society inspection requirements for vessels, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisioning, and other similar logistics and operational limitations that are beyond Woodside's direct control.

Table 6-6: Existing Capability – Surface Dispersant Application

E	Existing Capability														
E1	Existing level of surface dispersant application capability available – Aerial Dispersant Application (m³)														
Existing capability – Surface Dispersant Application		Day	Day	Day	Day	Day	Day	Day		Week	Week	Week		Month	Month
		1	2	3	4	5	6	7		2	3	4		2	3
	By Volume – m³														
E1.1	Predicted oil contacted by surface dispersant application (lower) – m³	40	80	310	310	310	310	310		2,170	2,170	2,170		8,680	8,680
E1.2	Predicted oil dispersed by surface dispersant application (lower) – m³	28	57	220	220	220	220	220		1,541	1,541	1,541		6,163	6,163
E1.3	Predicted oil contacted by surface dispersant application (upper) – m³	100	1,263	1,263	1,263	1,263	1,263	1,263		10,838	11,700	12,563		40,950	40,950
E1.4	Predicted oil dispersed by surface dispersant application (upper) – m³	112	1,414	1,414	1,414	1,414	1,414	1,414		12,141	13,108	14,074		45,876	45,876
E1.5	Dispersant delivery available (lower) – m³	4	8	31	31	31	31	31		217	217	217		868	868
E1.6	Dispersant delivery available (upper) – m³	8	101	101	101	101	101	101		867	936	1005		3276	3276
	By Surface Area– km²														
E1.7	Predicted surface area treated by surface dispersant application (lower) – km²	3	6	9	9	9	9	9		63	63	63		252	252
E1.8	Predicted surface area treated by surface dispersant application (upper) – km²	8	20	20	20	20	20	20		220	224	228		784	784
E2	Existing level of surface dispersant application capability available – Vessel Dispersant Application (m³)														
	By Volume – m³														
E2.1	Predicted oil contacted by surface dispersant application (lower) – m³	0	50	100	100	200	200	200		1,500	2,100	2,100		8,400	8,400
E2.2	Predicted oil dispersed by surface dispersant application (lower) – m³	0	36	71	71	142	142	142		1,065	1,491	1,491		5,964	5,964
E2.3	Predicted oil contacted by surface dispersant application (upper) – m³	0	376	752	752	752	1128	1128		7,895	7,895	7,895		31,579	31,579
E2.4	Predicted oil dispersed by surface dispersant application (upper) – m³	0	280	560	560	560	840	840		5,882	5,882	5,882		23,526	23,526
E2.5	Dispersant delivery available (lower) – m³	0	5	10	10	20	20	20		150	210	210		840	840
E2.6	Dispersant delivery available (upper) – m³	0	20	40	40	40	60	60		420	420	420		1,680	1,680
	By Surface Area – km²														
E2.7	Predicted surface area treated by surface dispersant application (lower) – km²	0	1	2	2	4	4	4		30	42	42		168	168
E2.8	Predicted surface area treated by surface dispersant application (upper) – km²	1	2	4	4	4	6	6		42	42	42		168	168

The figures above for E1 - Aerial Dispersant Application and E2 – Vessel Dispersant Application show the predicted surface oil contacted by dispersant spraying (E1.1 (lower), E1.3 (upper) and E2.1 (lower) and E2.3 (upper)) which are intended to show the volume of dispersant sprayed from available platforms contacting the floating oil. Woodside has assumed a 50-75% encounter rate of sprayed dispersant to oil.

The figures also show the predicted oil dispersed (E1.2 (lower), E1.4 (upper) and E2.2 (lower) and E2.4 (upper)) which is intended to show the effectiveness of dispersant (based on laboratory results where available) on contacted oil, along with the predicted encounter rate of dispersant sprayed to oil contacted.

Predicted surface area contacted (E1.7, E1.8, E2.7 and E2.8) is based upon a coverage for available aircraft of 3 km² per day (lower) to 4 km² per day (upper) and, for vessels, 1 km² per vessel per day.

6.5.2 Response Planning: Loss of well containment (CS-01) (WCSS)

Modelling results at defined response thresholds ($>50 \text{ g/m}^2$ and $<10,000 \text{ cSt}$), where surface dispersants are likely to be effective, indicate that surface hydrocarbons arising from the subsurface release from Stickle-4H1 well are expected to be available for surface dispersant operations on day 3 only (1 km^2). Whilst floating hydrocarbons are predicted to largely remain within the Zone of Application (ZoA) (see [Figure 2-6](#)), modelling predicts that surface hydrocarbons will remain below the minimum thresholds for feasible surface dispersant application (50 g/m^2) both before and after day 3. The ZoA is based on the following criteria:

- 10 km from Commonwealth Marine Parks (excluding 'Multiple Use Zones')
- 10 km from State Marine Parks
- 10 km from Heritage List areas
- $>20 \text{ m}$ water depth
- 4 km from State Waters
- Within the Mainland Australian EEZ
- Avoiding sensitive reefs and shoals

To remove the surface hydrocarbons before shoreline contact would require the treatment of the floating hydrocarbons that meet the minimum threshold of 50 g/m^2 i.e. 1 km^2 (52 m^3) on day 3 only. This would require up to 1 aircraft able to fly 3-4 sorties per day (if required) on day 3 only. Woodside has 1-2 FWADC aircraft and 1 surface dispersant application vessel available within 24 hours. Within 48 hours, Woodside has access to 2-4 FWADC and 1 high-capacity aircraft per day for the duration of the spill. Further to this, surface dispersant vessel availability increases to 2 by day 2, 4 by day 3 and 6 by day 6. Current capability will meet the response need required for the available surface area (1 km^2) and volume (52 m^3) on day 3 only. Thereafter, surface hydrocarbons no longer meet threshold parameters.

Table 6-7: Loss of Well Containment (CS-01) – Release volumes

Loss of Well Containment (CS-01)		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7	2	3	4	2	3
	Oil on sea surface												
A	Total volume of oil released (surface) – m^3	429	429	429	429	429	429	429	3,005	3,005	3,005	12,019	5,581
B	Total volume of surface oil remaining after weathering (per day) – m^3	233	233	233	233	233	233	233	1,635	1,635	1,635	6,538	3,036

A – This volume represents the total volume of hydrocarbons released from the identified Worst-Case Credible discharge (LOWC). The total volume for this spill is released over approximately 69 days at a rate of $18 \text{ m}^3 / \text{hr}$.

B – Pyrenees Crude contains a relatively high proportion (~54.4% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. These compounds are expected to persist in the marine environment. In general, about 0.6% of the oil mass should evaporate within the first 12 hours ($\text{BP} < 180^\circ \text{C}$); a further 8.5% should evaporate within the first 24 hours ($180^\circ \text{C} < \text{BP} < 265^\circ \text{C}$); and a further 36.13% should evaporate over several days ($265^\circ \text{C} < \text{BP} < 380^\circ \text{C}$).

Table 6-8: Loss of Well Containment (CS-01) – Treatable hydrocarbons

Loss of Well Containment (CS-01)		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7	2	3	4	2	3
C	Treatable hydrocarbons following weathering												
C1	Total volume of surface oil $>50 \text{ g/m}^2$ – m^3	0	0	52	0	0	0	0	0	0	0	0	0
C2	Total surface area $>50 \text{ g/m}^2$ – km^2	0	0	1	0	0	0	0	0	0	0	0	0
	Dispersible hydrocarbons												
C3	Surface oil volume $>50 \text{ g/m}^2$ and viscosity $<10,000 \text{ cSt}$ – m^3	0	0	52	0	0	0	0	0	0	0	0	0
C4	Surface area $>50 \text{ g/m}^2$ and viscosity $<10,000 \text{ cSt}$ – km^2	0	0	1	0	0	0	0	0	0	0	0	0

C1 – indicates the total remaining volume of hydrocarbons in tonnes on the sea surface above 50 g/m^2 . Based on the information outlined in Section 2.3.3 regarding surface concentration thresholds, this is the total volume of oil that is available for surface dispersant spraying operations.

C2 – indicates the total surface area in square kilometres (km^2) of hydrocarbons above 50 g/m^2 . This is the total surface area of BAOAC 4 and above that can be treated by containment and recovery and surface dispersant spraying operations.

C3 – indicates the total remaining volume of hydrocarbons in m^3 on the sea surface above 50 g/m^2 and below $10,000 \text{ cSt}$. This is the total volume of oil that can potentially be treated by surface dispersant spraying operations.

C4 – indicates the total surface area in square kilometres (km^2) of hydrocarbons above 50 g/m^2 and below $10,000 \text{ cSt}$. This is the total surface area of BAOAC 4 and above that can potentially be treated by surface dispersant spraying operations.

6.5.2.1 Response Planning Need: Loss of Well Containment (CS-01)

Table 6-9: Loss of Well Containment (CS-01) – response planning need

Loss of Well Containment (CS-01)		Day	Day	Day	Day	Day	Day	Day		Week	Week	Week		Month	Month
		1	2	3	4	5	6	7		2	3	4		2	3
D	Response Planning Need														
D1	Bonn Agreement Oil Appearance Code (BAOAC) 5 – Continuous True oil colour														
D1.1	Surface area of BAOAC 5 (>200 g/m ²) – km ²	0	0	0	0	0	0	0		0	0	0		0	0
D1.2	Surface area of BAOAC 5 (>200 g/m ²) and <10,000 cSt – km ²	0	0	0	0	0	0	0		0	0	0		0	0
D1.3	Volume of surface oil BAOAC 5 (>200 g/m ²) - m ³	0	0	0	0	0	0	0		0	0	0		0	0
D1.4	Volume of surface oil BAOAC 5 (>200 g/m ²) and <10,000 cSt - m ³	0	0	0	0	0	0	0		0	0	0		0	0
D2	Bonn Agreement Oil Appearance Code (BAOAC) 4 – Discontinuous True oil colour														
D2.1	Surface area of BAOAC 4 (50-200 g/m ²) – km ²	0	0	1	0	0	0	0		0	0	0		0	0
D2.2	Surface area of BAOAC 4 (50-200 g/m ²) and <10,000 cSt – km ²	0	0	1	0	0	0	0		0	0	0		0	0
D2.3	Volume of surface oil BAOAC 4 (50-200 g/m ²) – m ³	0	0	52	0	0	0	0		0	0	0		0	0
D2.4	Volume of surface oil BAOAC 4 (50-200 g/m ²) and <10,000 cSt – m ³	0	0	52	0	0	0	0		0	0	0		0	0
D3	Bonn Agreement Oil Appearance Code (BAOAC) 3, 2 and 1 – Sheen														
D3.1	Volume of surface oil BAOAC 3, 2 and 1 (<50 g/m ²) – m ³	477	1,116	1,886	2,830	3,032	829	625		9,609	14,977	5,153		71,670	84,528

Surface Dispersant operations using vessels and aircraft would target the identified heavy (BAOAC 4 and 5) patches of oil as this technique is able to treat larger volumes and surface areas than containment and recovery and is subject to a window of opportunity (prior to spreading below 50 g/m² and/or viscosity increasing above >10,000 cSt).

The surface area of thickest oil (BAOAC 4 and 5) available for surface dispersant application peaks at approximately 1 km² on day 3 where surface concentration thresholds are met. As noted in Section 6.5.2 above, within 24 hours, Woodside has available 1-2 FWADC aircraft capable of dispersing 28 m³ to 112 m³ surface oil and covering an area of 3 km² to 8 km², plus 1 surface dispersant application vessel capable of dispersing 36 m³ to 72 m³ oil covering an area of ~1 km². Within 48 hours, Woodside has access to 2-4 FWADC and 1 high-capacity aircraft per day for the duration of the spill with a capability of dispersing 67 m³ to 1414 m³ surface oil covering 6 km² to 20 km² per day. Further to this, surface dispersant vessel availability increases to 2 by day 2, 4 by day 3 and 6 by day 6. Each vessel is capable of dispersing 36 m³ to 72 m³ oil and covering an area of ~1 km² per day. For the capability available, this is therefore estimated to be 142 m³ to 840 m³ covering 4 km² to 6 km² by day 6.

Current capability will meet the response need required for the available surface area of 1 km² and volume of 52 m³ on day 3 only. Thereafter, surface hydrocarbons no longer meet minimum threshold parameters. If ongoing dispersant operations were required and feasible, details of capability from week 2 to month 3 are included in Table 6-6.

Surface dispersant application may limit the feasible spatial area and effectiveness of containment and recovery as these operations cannot be conducted under or near the surface dispersant spraying operations for personnel safety reasons. Furthermore, floating hydrocarbons that have been treated with dispersant cannot then be recovered via containment and recovery techniques. In evaluating the response need for offshore operations, surface dispersant application is prioritised for BAOAC 5.

Woodside acknowledges that the current surface dispersant application capability may not treat the entirety of the oil released alone as no single response strategy or even combination of offshore response strategies will treat or remove 100% of the surface hydrocarbons in either surface area or volume. Woodside would require the inclusion of other response techniques to be initiated concurrently and recognises that multiple passes from aircraft and vessels may be required to meet the required dispersant to oil ratio. Woodside is committed to a realistic, scalable response capability that is commensurate to the level of risk and able to be practically implemented and sustained within the logistical constraints of remote areas.

6.5.3 Response Planning: Cargo tank loss of containment (CS-02)

The deterministic modelling run showing the minimum time to commencement of oil accumulation at any shoreline receptor (at threshold of 100 g/m²) indicates that first shoreline impact is predicted to occur at Exmouth, Ningaloo Coast WH and State MP on day 1.5 (2029 m³). The deterministic run for maximum cumulative oil volume accumulated across all shoreline receptors (at concentrations in excess of 100 g/m²) predicts shoreline contact of 3,571 m³ at Southern Pilbara – Shorelines on day 17.

Modelling results at defined response thresholds (>50 g/m² and <10,000cSt) where surface dispersants are likely to be effective indicate that the surface area available for feasible response operations will peak at 48 km² on day 1 for CS-02. After day 2, the viscosity increases above thresholds for feasible dispersion. Furthermore, after day 1, the available floating oil is predicted to move out of the Zone of Application (ZoA) and into State waters where surface dispersant application is unlikely to be a feasible response technique due to water depth and potential impacts of the dispersed oil plume on receptors in the water column and on the seabed (see Figure 2-7). The ZoA is based on the following criteria:

- 10 km from Commonwealth Marine Parks (excluding 'Multiple Use Zones')
- 10 km from State Marine Parks
- 10 km from Heritage List areas
- >20 m water depth
- 4 km from State Waters
- Within the Mainland Australian EEZ
- Avoiding sensitive reefs and shoals

To remove the surface hydrocarbons before shoreline contact would require the treatment of the floating hydrocarbons that meet the minimum threshold of 50 g/m² and maximum viscosity of 10,000 cSt whilst the oil remains within in the ZoA (see Figure 2-7) i.e. 48 km² (36,826 m³) on day 1. This would require up to 25 FWADC able to fly 3-4 sorties per day, 4 high-capacity aircraft plus up to 8 surface dispersant application vessels. This capability is not available within Australia and would not be permitted or feasible under safe simultaneous operations (SIMOPS) procedures. Woodside has 1-2 FWADC aircraft and 1 surface dispersant application vessel available within 24 hours which would target the thickest parts (BAOAC 4-5) at the leading edge of the surface slick and as close to the spill source as is feasible. This approach aims to mitigate the spread of the oil and maximise dispersant effectiveness thus reducing shoreline accumulations. Within 48 hours, if the oil remains within the ZoA and amenable to dispersant, Woodside has access to 2-4 FWADC and 1 high-capacity aircraft per day for the duration of the spill. Further to this, surface dispersant vessel availability increases to 2 by day 2, 4 by day 3 and 6 by day 6. After day 2, surface hydrocarbons are no longer within viscosity parameters.

Table 6-10: Cargo tank loss of containment (CS-02) – Release volumes

Cargo tank loss of containment (CS-02)		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7	2	3	4	2	3
	Oil on sea surface												
A	Total volume of oil released (surface) – m³	14,600	0	0	0	0	0	0	0	0	0	0	0
B	Total volume of surface oil remaining after weathering (per day) – m³	7942	0	0	0	0	0	0	0	0	0	0	0

A – This volume represents the total volume of hydrocarbons released from the identified scenario (cargo tank loss of containment).

B – Pyrenees Crude contains a relatively high proportion (~54.4% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. These compounds are expected to persist in the marine environment. In general, about 0.6% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 8.5% should evaporate within the first 24 hours (180 °C < BP < 265 °C); and a further 36.13% should evaporate over several days (265 °C < BP < 380 °C).

Table 6-11: Cargo tank loss of containment (CS-02) – Treatable hydrocarbons to establish response planning need

Cargo tank loss of containment (CS-02)		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7	2	3	4	2	3
C	Treatable hydrocarbons following weathering												
C1	Total volume of surface oil >50 g/m² – m³	36,826	31,702	26,733	35,443	13,099	629	0	0	0	0	0	0
C2	Total surface area >50 g/m²– km²	48	84	56	110	44	10	0	0	0	0	0	0
	Dispersible hydrocarbons												
C3	Surface oil volume >50 g/m² and viscosity <10,000 cSt – m³	36,826	14,745	0	0	0	0	0	0	0	0	0	0
C4	Surface area >50 g/m² and viscosity <10,000 cSt – km²	48	35	0	0	0	0	0	0	0	0	0	0

C1 – indicates the total remaining volume of hydrocarbons in cubic metres (m³) on the sea surface above 50 g/m². Based on the information outlined in Section 2.3.3 regarding surface concentration thresholds, this is the total volume of oil that is available for containment and recovery and surface dispersant spraying operations.

C2 – indicates the total surface area in square kilometres (km²) of hydrocarbons above 50 g/m². This is the total surface area of BAOAC 4 and above that can be treated by containment and recovery and surface dispersant spraying operations.

C3 – indicates the total remaining volume of hydrocarbons in cubic metres (m³) on the sea surface above 50 g/m² and below 10,000 cSt. This is the total volume of oil that can potentially be treated by surface dispersant spraying operations.

C4 – indicates the total surface area in square kilometres (km²) of hydrocarbons above 50 g/m² and below 10,000 cSt. This is the total surface area of BAOAC 4 and above that can potentially be treated by surface dispersant spraying operations.

6.5.3.1 Response Planning Need: Cargo tank loss of containment (CS-02)

Table 6-12: Cargo tank loss of containment (CS-02) – response planning need

Loss of Well Containment (CS-01)		Day	Day	Day	Day	Day	Day	Day		Week	Week	Week		Month	Month
		1	2	3	4	5	6	7		2	3	4		2	3
D	Response Planning Need														
D1	Bonn Agreement Oil Appearance Code (BAOAC) 5 – Continuous True oil colour														
D1.1	Surface area of BAOAC 5 (>200 g/m ²) – km ²	0	0	0	0	0	0	0		0	0	0		0	0
D1.2	Surface area of BAOAC 5 (>200 g/m ²) and <10,000 cSt – km ²	0	0	0	0	0	0	0		0	0	0		0	0
D1.3	Volume of surface oil BAOAC 5 (>200 g/m ²) - m ³	0	0	0	0	0	0	0		0	0	0		0	0
D1.4	Volume of surface oil BAOAC 5 (>200 g/m ²) and <10,000 cSt - m ³	0	0	0	0	0	0	0		0	0	0		0	0
D2	Bonn Agreement Oil Appearance Code (BAOAC) 4 – Discontinuous True oil colour														
D2.1	Surface area of BAOAC 4 (50-200 g/m ²) – km ²	48	84	56	110	44	10	0		0	0	0		0	0
D2.2	Surface area of BAOAC 4 (50-200 g/m ²) and <10,000 cSt – km ²	48	35	0	0	0	0	0		0	0	0		0	0
D2.3	Volume of surface oil BAOAC 4 (50-200 g/m ²) – m ³	36,826	31,702	26,733	35,443	13,099	629	0		0	0	0		0	0
D2.4	Volume of surface oil BAOAC 4 (50-200 g/m ²) and <10,000 cSt – m ³	36,826	14,745	0	0	0	0	0		0	0	0		0	0
D3	Bonn Agreement Oil Appearance Code (BAOAC) 3, 2 and 1 – Sheen														
D3.1	Volume of surface oil BAOAC 3, 2 and 1 (<50 g/m ²) – m ³	37,495	34,280	29,324	26,611	23,698	4,852	4,512		26,637	20,304	16,754		24,012	0

Surface dispersant operations guided by monitor and evaluate activities using vessels and aircraft would target the identified heavy (BAOAC 4 and 5) patches of oil to treat larger volumes and surface areas than containment and recovery. It is subject to a temporal window of opportunity prior to spreading below 50 g/m² and/or viscosity increasing above 10,000 cSt. Dispersant application would only be undertaken whilst the oil remains in the ZoA as illustrated in Figure 2-7.

The surface area of thickest oil (BAOAC 4 and 5, and <10,000 cSt) available for surface dispersant application for CS-02 peaks at 48 km² on day 1 where surface concentration and viscosity thresholds are met. As noted in Section 6.5.3 above, within 24 hours, Woodside has available 1-2 FWADC aircraft capable of dispersing 28 m³ to 112 m³ surface oil and covering an area of 3 km² to 8 km², plus up to 1 surface dispersant application vessel capable of dispersing 36 m³ to 72 m³ oil covering an area of ~1 km². Within 48 hours, Woodside has access to 2-4 FWADC and 1 high-capacity aircraft per day for the duration of the spill with a capability of dispersing 57 m³ to 1,414 m³ surface oil and covering an area of 6 km² to 20 km² per day. Further to this, surface dispersant vessel availability increases to 2 by day 2, 4 by day 3 and 6 by day 6. Each vessel is capable of dispersing 36 m³ to 72 m³ oil covering an area of ~1 km² per day. For the capability available, this is therefore estimated to be 142 m³ to 840 m³ covering an area of 4 km² to 6 km² by day 6. As previously noted, surface dispersant application is not predicted to be feasible beyond days 1-2 for CS-02. If ongoing dispersant operations were required and feasible, details of capability from week 2 to month 3 are included in Table 6 6.

Surface dispersant application may limit the feasible spatial area and effectiveness of containment and recovery as these operations cannot be conducted under or near the surface dispersant spraying operations for personnel safety reasons. Furthermore, floating hydrocarbons that have been treated with dispersant cannot then be recovered via containment and recovery techniques. In evaluating the response need for offshore operations, surface dispersant application is prioritised for BAOAC 5.

Woodside acknowledges that the current surface dispersant application capability may not treat the entirety of the oil released alone as no single response strategy or even combination of offshore response strategies will treat or remove 100% of the surface hydrocarbons in either surface area or volume. Woodside would require the inclusion of other response techniques to be initiated concurrently and recognises that multiple passes from aircraft and vessels may be required to meet the required dispersant to oil ratio. Woodside is committed to a realistic, scalable response capability that is commensurate to the level of risk and able to be practically implemented and sustained within the logistical constraints of remote areas.

6.5.4 Surface Dispersant Application – Control measure options analysis

6.5.4.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Dedicated response vessel in region (exclusive to Woodside)	The environmental benefits associated with surface dispersant application are described above. The additional environmental benefit obtained from immediate access to this equipment, permitting deployment once conditions become favourable, would result in 50-188 m ³ of oil contacted resulting in approximately 36-140 m ³ of oil treated based on one operation. This is considered to be of minor environmental benefit.	Chartering and equipping additional vessels on standby has been considered. The option is reasonably practicable but the sacrifice (charter costs and organisational complexity) is significant, particularly when compared with the anticipated availability of vessel and FWADC resources which have a similar dispersant delivery capacity and are available from day 2 to treat the spill. The effectiveness of this control (weather dependency, availability and survivability) is rated as very low.	The cost A(\$15 m per annum for the PAP) and organisational complexity of employing a dedicated response vessel is considered disproportionate to the minor environmental benefit to be realised by implementing this control.	This option is not adopted as it has low effectiveness and cost is disproportionate to the minimal potential environmental benefit.	No
Dedicated Response Vessel in region (shared resource)	The environmental benefit would be similar to that described above for Woodside integrated fleet vessels.	Additional resources and capability can be contracted should the need arise, and dispersant build-up is capable of satisfying additional demand.	The cost and complexity of implementing and maintain this alternative control measure is considered high given the predicted effectiveness. Even with consideration of shared costs, the minor benefit of this control measure does not justify the cost.	This option is not adopted as the complexity and cost are disproportionate to the minimal potential environmental benefit.	No

6.5.4.2 Additional Control Measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Lease/purchase additional spray systems and/or dispersant stocks (based at Exmouth/ Dampier)	Purchase of additional system(s) and/or dispersant stocks would not provide a significant environmental benefit compared to the current capability in place.	Time to set up and mobilise a marine charter vessel is ~10 days, at which point existing surface dispersant application systems are available for loading onto vessels. Adding additional spray systems would allow for extra surface dispersant application capacity but is unlikely to reduce deployment times for this strategy.	For the WCCS, additional surface dispersant (vessel) spray systems and large quantities of dispersant are already available through AMOSC and OSRL therefore the cost is considered disproportionate to the minor benefit gained.	This option is not adopted as the current capability meets the need.	No
Train additional Woodside personnel in Exmouth to coordinate vessel dispersant application	Limited environmental benefit to be gained by training additional personnel.	Current capability meets need. Woodside has a pool of trained, competent offshore responders / team leaders at strategic locations to ensure timely and sustainable response. Additional personnel are available through current contracts with AMOSC and OSRL and agreements with AMSA. Marine standards and guidelines ensure vessel masters are competent for their roles. Regular audits of oil spill response organisations ensure training and competency is maintained.	Minor additional cost regarding training and maintenance of competency.	This option is not adopted as the current capability meets the need.	No

6.5.4.3 Improved Control Measures

Improved Control Measures considered <i>Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Locate vessel spraying equipment on additional in-field support vessel(s)	This option may achieve minor incremental improvements in surface oil and residual oil volumes similar to those described for integrated fleet vessels. However, given the likely vessel re-supply times involved to/from the offshore spill location, this option is unlikely to realise material environmental benefits additional the capability selected.	Woodside currently has dispersant spray systems pre-located on vessels used in-field during cargo transfer activities. Consideration of equipping additional vessels with similar equipment was made but is not being carried through to implementation.	The option is reasonably practicable and the cost (charter and operational/maintenance costs) is expected to be moderate, particularly when compared with the ability to rapidly commence spraying operations, subject to safety considerations but Woodside considers the existing control measures to be sufficient for the need.	This option is not adopted as the current capability meets the need.	No

6.5.5 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- alternative
 - none selected
- additional
 - none selected
- improved
 - none selected.

6.6 Containment and Recovery – ALARP Assessment

Alternative, additional and improved control measure options have been identified and assessed against the base capability described in Section 5.6. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.6.1 Existing Capability – Containment and Recovery

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours per day. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/ vessel/ aircraft location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/ pilot duty and fatigue hours, refuelling/ restocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

Table 6-13: Existing Capability – Containment and Recovery

E	Existing Capability																																
E3	Existing level of containment and recovery capability available (recovered per day)																																
Existing capability – Containment and Recovery									Day		Day		Day		Day		Day		Day		Week		Week		Week		Month		Month				
									1		2		3		4		5		6		7		2		3		4		2		3		
	By Volume – m³																																
E3.1	Predicted oil recovered by containment and recovery (lower) – m³									0		23		23		34		45		56		68		473		630		630		2,520		2,520	
E3.2	Predicted oil recovered by containment and recovery (upper) – m³									68		135		203		270		405		405		405		3,915		4,725		4,725		18,900		18,900	
	By Surface Area– km²																																
E3.3	Predicted surface area treated by containment and recovery (lower) – km²									0		2		2		3		4		5		6		42		56		56		224		224	
E3.4	Predicted surface area treated by containment and recovery (upper) – km²									1		2		3		4		6		6		6		58		70		70		280		280	

For E3 – Containment and Recovery, the range of figures shows the predicted recovery rates of surface oil at >50 g/m² for the lower figures and 200 g/m² for the upper figures using conventional booming systems in a J or U configuration with an encounter rate of 25-50% surface oil meaning 75%-50% of the area within the booming system has surface oil that is not within threshold concentrations i.e. <50 g/m²).

6.6.2 Response Planning: Loss of well containment (CS-01) (WCCS)

The deterministic modelling run showing the minimum time to commencement of oil accumulation at any shoreline receptor (at threshold of 100 g/m²) indicates that first shoreline impact is predicted to occur at Exmouth, Ningaloo Coast WH and State MP on day 3 (1701 m³). The deterministic run for the cumulative oil volume accumulated across all shoreline receptors (at concentrations in excess of 100 g/m²) predicts shoreline contact of 3,432 m³ at at Exmouth, Ningaloo Coast WH and State MP on day 32.

Modelling results at defined response thresholds (>50 g/m²) where containment and recovery is likely to be effective indicate that the surface area available for feasible response operations will peak at 1 km² on day 3 only for CS-01. Viscosity alone is unlikely to prevent containment and recovery operations, but very high viscosity combined with low surface concentrations (<50 gm²) are unlikely to continue to provide a net environmental benefit. As this spreading and weathering occur, there will be limitations on available surface area that can be treated as shown in Section 5.6

Table 6-14: Loss of well containment – Release volumes

Containment and Recovery		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7	2	3	4	2	3
	Oil on sea surface												
A	Total volume of oil released (surface) – m ³		429	429	429	429	429	429	429	429	429	12,019	5581
B	Total volume of surface oil remaining after weathering (per day) – m ³		233	233	233	233	233	233	233	233	233	6,538	3,036

A – This volume represents the total volume of hydrocarbons released from the identified Worst-Case Credible discharge (LOWC). The total volume for this spill is released over approximately 69 days at a rate of 18 m³ / hr.

B – Pyrenees Crude contains a relatively high proportion (~54.4% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. These compounds are expected to persist in the marine environment. In general, about 0.6% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 8.5% should evaporate within the first 24 hours (180 °C < BP < 265 °C); and a further 36.13% should evaporate over several days (265 °C < BP < 380 °C).

Table 6-15: Loss of well containment – Treatable hydrocarbons

Containment and Recovery		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7					
C	Treatable hydrocarbons following weathering												
C1	Total volume of surface oil >50 g/m ² – m ³	0	0	52	0	0	0	0	0	0	0	0	0
C2	Total surface area >50 g/m ² – km ²	0	0	1	0	0	0	0	0	0	0	0	0

C1 – indicates the total remaining volume of hydrocarbons in tonnes on the sea surface above 50 g/m². Based on the information outlined in Section 2.3.3 regarding surface concentration thresholds, this is the total volume of oil that can be treated by containment and recovery and surface dispersant spraying operations.

C2 – indicates the total surface area in square kilometres (km²) of hydrocarbons above 50 g/m². This is the total surface area of BAOAC 4 and above that can be treated by containment and recovery and surface dispersant spraying operations.

6.6.2.1 Response Planning Need: Loss of well containment (CS-01) (WCCS) – Summary

Table 6-16: Loss of Well Containment (CS-01) – response planning need

Loss of Well Containment (CS-01)		Day	Day	Day	Day	Day	Day	Day		Week	Week	Week		Month	Month
		1	2	3	4	5	6	7		2	3	4		2	3
D	Response Planning Need														
D1	Bonn Agreement Oil Appearance Code (BAOAC) 5 – Continuous True oil colour														
D1.1	Surface area of BAOAC 5 (>200 g/m ²) – km ²	0	0	0	0	0	0	0		0	0	0		0	0
D1.2	Volume of surface oil BAOAC 5 (>200 g/m ²) - m ³	0	0	0	0	0	0	0		0	0	0		0	0
D2	Bonn Agreement Oil Appearance Code (BAOAC) 4 – Discontinuous True oil colour														
D2.1	Surface area of BAOAC 4 (50-200 g/m ²) – km ²	0	0	1	0	0	0	0		0	0	0		0	0
D2.2	Volume of surface oil BAOAC 4 (50-200 g/m ²) – m ³	0	0	52	0	0	0	0		0	0	0		0	0
D3	Bonn Agreement Oil Appearance Code (BAOAC) 3, 2 and 1 – Sheen														
D3.1	Volume of surface oil BAOAC 3, 2 and 1 (<50 g/m ²) – m ³	477	1,116	1,886	2,830	3,032	829	625		9,609	14,977	5,153		71,670	84,528

Offshore response operations will always be guided by monitor and evaluate and operational monitoring activities to target the thickest part of the slick, typically BAOAC 5 – continuous true oil colour with a surface oil concentration >200 g/m² and BAOAC 4 – discontinuous true oil colour with a surface oil concentration between 50 and 200 g/m². For a surface release, the thickest oil is typically in the leading edge of the slick, driven by wind and currents. As the spill continues to weather and spread over a number of days and weeks, the surface concentration and surface area of continuous oil colour spreads and reduces to discontinuous true oil colour and finally sheen as shown above.

The response need is calculated from the surface area and volume of treatable hydrocarbons following weathering as outlined in Table 6-15. While surface dispersant operations target the leading edge of the slick where surface concentration and viscosity thresholds are met, containment and recovery operations would be deployed behind the surface dispersant application area to target discrete patches of thick oil at BAOAC 4 and 5 and remaining oil that is not dispersed.

The surface area of thickest oil (BAOAC 4 and 5) available for containment and recovery peaks at approximately 1 km² on day 3 only where surface concentration thresholds are met. Within 24 hours, Woodside has available 1 containment and recovery operation capable of recovering up to 68 m³ surface oil and covering an area of 1 km². Availability of containment and recovery operations increases to 2 by day 2, 3 by day 3, 4 by day 4, and 6 by day 5. Thus, by day 5, the recovery capacity is estimated to be up to 405 m³ covering an area of 6 km². As described in Table 4 1, containment and recovery is not predicted to be feasible for CS-01, aside from on day 3. If ongoing containment operations were required and feasible, details of capability from week 2 to month 3 are included in Table 6 13.

Woodside acknowledges that the current containment and recovery capability may not treat the entirety of the oil released alone as no single response strategy or even combination of offshore response strategies will treat or remove 100% of the surface hydrocarbons in either surface area or volume. Woodside would require the inclusion of other response techniques to be initiated concurrently and recognises that multiple passes from vessels may be required to recover a greater proportion of the oil. Woodside is committed to a realistic, scalable response capability that is commensurate to the level of risk and able to be practically implemented and sustained within the logistical constraints of remote areas.

6.6.3 Response Planning: Cargo tank loss of containment (CS-02)

The deterministic modelling run showing the minimum time to commencement of oil accumulation at any shoreline receptor (at threshold of 100 g/m²) indicates that first shoreline impact is predicted to occur at Exmouth, Ningaloo Coast WH and State MP on day 2 (2,029 m³). The deterministic run for the cumulative oil volume accumulated across all shoreline receptors (at concentrations in excess of 100 g/m²) predicts shoreline contact of 3571 m³ at South Pilbara Shoreline at Ashburton on day 17.

Modelling results at defined response thresholds (>50 g/m²) where containment and recovery is likely to be effective indicate that the surface area available for feasible response operations will peak at 48 km² on day 1 for CS-02. Viscosity alone is unlikely to prevent containment and recovery operations, but very high viscosity combined with low surface concentrations (<50 gm²) are unlikely to continue to provide a net environmental benefit. As this spreading and weathering occur, there will be limitations on available surface area that can be treated as shown in Section 5.6

Implementing further capability is not expected to provide a significant environmental benefit as only a minor portion of the available surface hydrocarbons would be treated using this technique.

Table 6-17: Cargo tank loss of containment – Release volumes

Containment and Recovery		Day	Day	Day	Day	Day	Day		Week	Week	Week		Month	Month
		1	2	3	4	5	6	7	2	3	4		2	3
	Oil on sea surface													
A	Total volume of oil released (surface) – m ³	14,600	0	0	0	0	0	0	0	0	0		0	0
B	Total volume of surface oil remaining after weathering (per day) – m ³	7942	0	0	0	0	0	0	0	0	0		0	0

A – This volume represents the total volume of hydrocarbons released from the identified cargo tank loss of containment scenario.

B – Pyrenees Crude contains a relatively high proportion (~54.4% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. These compounds are expected to persist in the marine environment. In general, about 0.6% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 8.5% should evaporate within the first 24 hours (180 °C < BP < 265 °C); and a further 36.13% should evaporate over several days (265 °C < BP < 380 °C).

Table 6-18: Cargo tank loss of containment – Treatable hydrocarbons to establish response planning need

Containment and Recovery		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7	2	3	4	2	3
C	Treatable hydrocarbons following weathering												
C1	Total volume of surface oil >50 g/m² – m³	3234	2095	2690	1181	203	158	0	0	0	0	0	0
C2	Total surface area >50 g/m²– km²	48	84	56	110	44	10	0	0	0	0	0	0

C1 – indicates the total remaining volume of hydrocarbons in tonnes on the sea surface above 50 g/m². Based on the information outlined in Section 2.3.3 regarding surface concentration thresholds, this is the total volume of oil that can be treated by containment and recovery and surface dispersant spraying operations.

C2 – indicates the total surface area in square kilometres (km²) of hydrocarbons above 50 g/m². This is the total surface area of BAOAC 4 and above that can be treated by containment and recovery and surface dispersant spraying operations

6.6.3.1 Response Planning Need: Cargo tank loss of containment (CS-02) – Summary

Table 6-19: Cargo tank loss of containment (CS-02) – response planning need

Loss of Well Containment (CS-01)		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7	2	3	4	2	3
D	Response Planning Need												
D1	Bonn Agreement Oil Appearance Code (BAOAC) 5 – Continuous True oil colour												
D1.1	Surface area of BAOAC 5 (>200 g/m²) – km²	0	0	0	0	0	0	0	0	0	0	0	0
D1.2	Volume of surface oil BAOAC 5 (>200 g/m²) - m³	0	0	0	0	0	0	0	0	0	0	0	0
D2	Bonn Agreement Oil Appearance Code (BAOAC) 4 – Discontinuous True oil colour												
D2.1	Surface area of BAOAC 4 (50-200 g/m²) – km²	48	84	56	110	44	10	0	0	0	0	0	0
D2.2	Volume of surface oil BAOAC 4 (50-200 g/m²) – m³	36,826	31,702	26,733	35,443	13,099	629	0	0	0	0	0	0
D3	Bonn Agreement Oil Appearance Code (BAOAC) 3, 2 and 1 – Sheen												
D3.1	Volume of surface oil BAOAC 3, 2 and 1 (<50 g/m²) – m³	37,495	34,280	29,324	26,611	23,698	4,852	4,512	26,637	20,304	16,754	24,012	0

Offshore response operations will always be guided by monitor and evaluate and operational monitoring activities to target the thickest part of the slick, typically BAOAC 5 – continuous true oil colour with a surface oil concentration >200 g/m² and BAOAC 4 – discontinuous true oil colour with a surface oil concentration between 50 and 200 g/m². For a surface release, the thickest oil is typically in the leading edge of the slick, driven by wind and currents. As the spill continues to weather and spread over a number of days and weeks, the surface concentration and surface area of continuous oil colour spreads and reduces to discontinuous true oil colour and finally sheen as shown above.

The response need is calculated from the surface area and volume of treatable hydrocarbons following weathering as outlined in Table 6-18. While surface dispersant operations target the leading edge of the slick where surface concentration and viscosity thresholds are met, containment and recovery operations would be deployed behind the surface dispersant application area to target discrete patches of thick oil at BAOAC 4 and 5 and remaining oil that is not dispersed.

The volume of thickest oil (BAOAC 4 and 5) available for containment and recovery peaks at approximately 3234 m³ on day 1 and, for surface area, peaks at 110 km² on day 4 where surface concentration thresholds are met. Within 24 hours, Woodside has available 1 containment and recovery operation capable of recovering up to 68 m³ surface oil covering an area of 1 km². Availability of containment and recovery operations increases to 2 by day 2, 3 by day 3, 4 by day 4, and 6 by day 5. Thus, by day 5, the recovery capacity is estimated to be up to 405 m³ covering an area of 6 km². As described in Table 4 2 and shown above, containment and recovery is not predicted to be feasible beyond day 6 for CS-02. If required, details of ongoing capability from week 2 to month 3 are included in Table 6 13.

Woodside acknowledges that the current containment and recovery capability may not treat the entirety of the oil released alone as no single response strategy or even combination of offshore response strategies will treat or remove 100% of the surface hydrocarbons in either surface area or volume. Woodside would require the inclusion of other response techniques to be initiated concurrently and recognises that multiple passes from vessels may be required to recover a greater proportion of the oil. Woodside is committed to a realistic, scalable response capability that is commensurate to the level of risk and able to be practically implemented and sustained within the logistical constraints of remote areas.

6.6.4 Containment and Recovery – Control Measure Options Analysis

6.6.4.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Dedicated Response Vessel in region (exclusive to Woodside)	The environmental benefits associated with containment and recovery are described above. The additional environmental benefit obtained from immediate access to this equipment, permitting deployment as soon as conditions became favourable, would result in a negligible environmental benefit – 11.25-67.5 m ³ of oil recovered per operating unit per day.	Chartering and equipping additional vessels on standby has been considered. The option is reasonably practicable but the sacrifice (charter costs and organisational complexity) is significant, particularly when compared with the anticipated effectiveness of containment and recovery to treat the spill which are available from day 2. The effectiveness of this control (encounter rate, weather dependency, availability) is rated as very low.	The cost (A\$15 m per annum for the PAP) and organisational complexity of employing a dedicated response vessel is considered disproportionate to the insignificant environmental benefit to be realised by implementing this control.	This option is not adopted as it has low effectiveness and cost is disproportionate to the minimal potential environmental benefit.	No
Dedicated Response Vessel in region (shared resource)	The environmental benefit would be similar to that described above for Woodside integrated fleet vessels.	Additional containment and recovery resources and capability can be contracted should the need arise.	The cost and complexity of implementing and maintain this alternative control measure is considered high given the predicted effectiveness. Even with consideration of shared costs, the minor benefit of this control measure does not justify the cost.	This option is not adopted as it has low effectiveness and cost is disproportionate to the minimal potential environmental benefit.	No
Regional oil spill response contractor	This option may achieve minor incremental improvements in surface oil and residual oil volumes similar to those described for integrated fleet vessels. However, given the likely vessel transit times involved to/from the offshore spill location, this option is unlikely to realise material environmental benefits additional the capability selected.	No current private response contracting capability exists that would significantly improve response timing or effectiveness in the Dampier or Exmouth regions.	N/A – not currently feasible	This option is not adopted as it is not currently feasible.	No

6.6.4.2 Additional Control Measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Train additional Woodside personnel in Exmouth to coordinate containment and recovery operations	Limited environmental benefit to be gained by training additional personnel as the number of operations will be governed by the availability of response vessels.	Current capability meets need. Woodside has a pool of trained, competent offshore responders / team leaders at strategic locations to ensure timely and sustainable response. Additional personnel are available through current contracts with AMOSC and OSRL and agreements with AMSA. Marine standards & guidelines ensure vessel masters are competent for their roles. Regular audits of oil spill response organisations ensure training and competency is maintained.	Minor additional cost regarding training and maintenance of competency.	This option is not adopted as the current capability meets the need.	No

6.6.4.3 Improved Control Measures

Improved Control Measures considered

Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Prioritise rapid sweep systems (NOFI Buster series, Desmi Speed Sweep, etc.) for mobilisation from service providers	Although each rapid sweep containment and recovery operation could remove an additional 10-45 m ³ per operation per day, the environmental benefit of containment and recovery as a response technique is minor. This response technique is not considered to be as effective as surface dispersant application to prevent hydrocarbons reaching the shore.	Rapid sweep systems allow containment and recovery operations to be undertaken at speeds of up to 3 knots. This allows for greater encounter rates and surface coverage. AMOSC has recently purchased a Speed Sweep system and a number of NOFI systems are available through Mutual Aid arrangements.	Additional costs for prioritising rapid sweep systems are negligible	Although containment and recovery remains a low-efficiency response technique, this control measure is adopted as the costs and complexity are not considered disproportionate to any environmental benefit that might be realised.	Yes
Prioritise active booming systems (Ro-skim, etc.) for mobilisation from service providers	Although each active booming system could remove an additional 10-45 m ³ per operation per day, the environmental benefit of containment and recovery as a response technique is minor. This response technique is not considered to be as effective as surface dispersant application to prevent hydrocarbons reaching the shore.	Active booming systems allow containment and recovery operations without the need for an additional skimming system. This allows for greater effectiveness and continued skimming operations. Active booming systems are available through OSRL and Mutual Aid arrangements and would be prioritised for mobilisation.	Additional costs for prioritising active booming systems are negligible	Although containment and recovery remains a low-efficiency response technique, this control measure is adopted as the costs and complexity are not considered disproportionate to any environmental benefit that might be realised.	Yes
Pre-position additional containment and recovery equipment (Exmouth)	It is unlikely that faster mobilisation and deployment from Exmouth would significantly increase response effectiveness or removal of oil to create an increased environmental benefit	Facilities at Exmouth are currently limited by tides and draft for the loading and unloading of vessels with heavy plant and equipment. Access to the Navy Pier to provide an additional loading location is subject to Defence Force approval and cannot be relied upon for rapid approval in the event of an oil spill.	Limited additional cost considerations.	This option is not adopted as the complexity is disproportionate to the minimal potential environmental benefit due to the low efficiency of containment and recovery as a response technique.	No
Re-locate containment and recovery equipment on in-field vessels	The additional environmental benefit obtained from faster mobilisation and deployment would be limited by safety considerations during the initial period following the release. Once operations were considered safe, the vessels would increase recovery capacity by 11.25-67.5 m ³ per day per operation. The limited oil treatment of containment and recovery and expected effectiveness of dispersant application from vessels indicates the preference would be for greater surface dispersant application capability.	Operations close to the release location are unlikely to be feasible during the initial period due to the uncertainty of the situation and potential safety impacts on personnel. Vessels may require time to return to port and load equipment, fuel etc. to allow response duration to be the maximum possible once deployed. Shortening the timeframes for vessel availability would require equipment to be pre-positioned on-board vessels.	The cost and organisational complexity of employing two dedicated response vessels (approximately A\$15 m per year per vessel) is considered disproportionate to the limited environmental benefit to be realised by adopting this control	This option is not adopted as the cost is disproportionate to the minimal potential environmental benefit due to the low efficiency of containment and recovery as a response technique.	No
Purchase or pre-position larger skimmers	The environmental benefit of containment and recovery for the loss of well control scenario is minor. This response strategy is not considered to be as effective as surface dispersant application to prevent hydrocarbons reaching the shore.	Larger systems such as the Desmi Octopus or Transrec with >200 m ³ per hour capacity, could improve recovery rates, however are not readily available in Australia and not easily compatible with booming, waste and hydraulic power systems. If required and deemed to be of benefit, these systems are available through Service Providers such as OSRL.	Cost of purchasing Octopus system is A\$600,000 plus additional transport, training and commissioning costs and ongoing maintenance costs. Cost for pre-positioning in Australia for the life of the asset/activity is greater than the purchase costs.	This option is not adopted as the cost is disproportionate to the minimal potential environmental benefit due to the low efficiency of containment and recovery as a response technique.	No

6.6.5 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- alternative
 - none selected
- additional
 - none selected
- improved
 - prioritise rapid sweep systems (NOFI Buster series, Desmi Speed Sweep, etc.) for mobilisation from service providers
 - prioritise active booming systems (Ro-skim, etc.) for mobilisation from service providers.

6.7 Shoreline Protection and Deflection – ALARP Assessment

Alternative, additional and improved control measure options have been identified and assessed against the base capability described in Section 5.7. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.7.1 Existing Capability – Shoreline Protection and Deflection

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft/vehicle location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.7.2 Response Planning: Pyrenees Facility Operations activity – Shoreline Protection and Deflection

Planning for shoreline protection is based upon identification of RPAs from deterministic modelling and the logistics associated with deploying protection at these locations. The response planning scenarios indicate that this would require effective mobilisation to priority shorelines and maintenance of protection until monitor and evaluate and operational monitoring activities confirm that the locations are no longer at risk. Woodside has identified the RPAs from deterministic modelling results provided from specific scenarios.

The control measures selected provide capability to commence mobilisation of shoreline protection equipment within 24 hours (if required). For CS-01, the deterministic modelling run demonstrating the minimum time to shoreline contact at a threshold of >100 g/m² (Q1, Run22) and the deterministic run with the greatest number of locations with accumulations at >100 g/m² (Q4, Run 22) have been selected for response planning and are combined in Table 6-20 below. Initial contact is predicted within 72 hours at Exmouth, Ningaloo Coast WH and State MP (1701 m³). For CS-02, the deterministic modelling run demonstrating the minimum time to shoreline contact at a threshold of >100 g/m² (Q1, Run 47) and the deterministic run with the greatest number of locations with accumulations at >100 g/m² (Q4, Run 2) have been selected for response planning and are combined in Table 6-21 below. Initial shoreline contact is predicted to occur within 48 hours at Exmouth, Ningaloo Coast WH and State MP (2029 m³). Stochastic modelling for CS-03 is included in Table 6-22 and indicates that contact at this threshold would occur within 24 hours initially at Exmouth, Ningaloo Coast WH and State MP (202 tonnes) and then at the Muiron Islands and MMA (126 tonnes).

Tactical response plans exist for many of the RPAs identified. The plans identify values and sensitivities that would be protected at location. Modelling does not predict that all priority protection shorelines will be at risk of contact at the same time. Therefore, to allow for the best use of available shoreline protection and deflection resources, monitor and evaluate and operational monitoring activities will inform the response, targeting RPAs where contact is predicted above response threshold levels.

below outlines the capability required (number of RPAs predicted to be impacted) against the capability available (number of shoreline protection and deflection operations that can be mobilised and deployed).

Table 6-20: Response Planning – Shoreline Protection and Deflection (CS-01)

Pyrenees Facility Operations activity		Day	Day	Day	Day	Day	Day	Day		Week	Week	Week		Month	Month
		1	2	3	4	5	6	7		2	3	4		2	3
	Oil on shoreline (from deterministic modelling of CS-01) m ³	0	0	1701	1174	112	156	0		40	90	147		1890	2
A	Capability Required														
A1	Number of RPAs contacted (> 100 g/m²) – CS-01	0	0	1	1	1	2	0		2	6	6		17	1
B	Capability Available (operations per day)														
B1	SPD operations available – per day (lower)	0	15	15	20	20	20	20		70	70	70		330	330
B2	SPD operations available – per day (upper)	1	15	15	20	20	20	20		84	84	84		336	336
C	Capability Gap (operations per day)														
C1	SPD operations gap – per day (lower)	0	-15	-14	-19	-19	-18	-20		-68	-64	-64		-313	-329
C2	SPD operations gap – per day (upper)	-1	-15	-14	-19	-19	-18	-20		-80	-72	-72		-302	-334

A1 – the number of Response Protection Areas contacted by surface hydrocarbons above 100 g/m²

B1 and B2 – the upper and lower number of shoreline protection and deflection operations available (based on response planning assumptions in Section 5.3),

C1 and C2 – the gap between the upper and lower number of shoreline protection and deflection operations required in A1 compared to the operations available in B1 and B2. NB green negative numbers denote a capability surplus.

Table 6-21: Response Planning – Shoreline Protection and Deflection (CS-02)

Pyrenees Facility Operations activity		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7				2	3
	Oil on shoreline (from deterministic modelling of CS-02) m ³	0	2029	0	1538	165	0	0	3054	6253	0	0	0
A	Capability Required												
A1	Number of RPAs contacted (> 100 g/m²) – CS-02	0	1	0	1	3	0	0	5	22	0	0	0
B	Capability Available (operations per day)												
B1	SPD operations available – per day (lower)	0	15	15	20	20	20	20	70	70	70	330	330
B2	SPD operations available – per day (upper)	1	15	15	20	20	20	20	84	84	84	336	336
C	Capability Gap (operations per day)												
C1	SPD operations gap – per day (lower)	0	-14	-15	-18	-18	-20	-20	-62	-48	-70	-330	-330
C2	SPD operations gap – per day (upper)	-1	-14	-15	-18	-18	-20	-20	-68	-62	-84	-336	-336

A1 – the number of Response Protection Areas contacted by surface hydrocarbons above 100 g/m²

B1 and B2 – the upper and lower number of shoreline protection and deflection operations available (based on response planning assumptions in Section 5.3),

C1 and C2 – the gap between the upper and lower number of shoreline protection and deflection operations required in A1 compared to the operations available in B1 and B2. NB green negative numbers denote a capability surplus.

Table 6-22: Response Planning – Shoreline Protection and Deflection (CS-03)

Pyrenees Facility Operations activity		Day	Day	Day	Day	Day	Day	Day	Week	Week	Week	Month	Month
		1	2	3	4	5	6	7				2	3
	Oil on shoreline (from deterministic modelling of CS-03) tonnes	328	0	0	6	0	0	0	0	0	0	0	0
A	Capability Required												
A1	Number of RPAs contacted (> 100 g/m²) – CS-03	2	0	0	1	0	0	0	0	0	0	0	0
B	Capability Available (operations per day)												
B1	SPD operations available – per day (lower)	0	15	15	20	20	20	20	70	70	70	330	330
B2	SPD operations available – per day (upper)	1	15	15	20	20	20	20	84	84	84	336	336
C	Capability Gap (operations per day)												
C1	SPD operations gap – per day (lower)	0	-15	-15	-19	-20	-20	-20	-70	-70	-70	-330	-330
C2	SPD operations gap – per day (upper)	1	-15	-15	-19	-20	-20	-20	-84	-84	-84	-336	-336

A1 – the number of Response Protection Areas contacted by surface hydrocarbons above 100 g/m²

B1 and B2 – the upper and lower number of shoreline protection and deflection operations available (based on response planning assumptions in Section 5.3),

C1 and C2 – the gap between the upper and lower number of shoreline protection and deflection operations required in A1 compared to the operations available in B1 and B2. NB green negative numbers denote a capability surplus.

A shoreline protection and deflection response would be launched when monitor and evaluate and operational monitoring indicate that the spill is heading towards RPA(s) and there is sufficient time for deployment prior to shoreline contact. Sites would be prioritised for protection based on sensitivity together with prediction of the most rapid and/or highest magnitude accumulations. The response need is calculated from the number of sites predicted to be contacted at >100 g/m².

Within 24 hours, Woodside has 1 protection and deflection operation available. Within 48 hours, Woodside can mobilise up to 15 response operations comprising its team of trained response personnel from Karratha (the 'Burrup Response Team') and appropriate shoreline response equipment. This capability increases to 20 operations by day 4. Shoreline contact at response thresholds for CS-01 is predicted up to day 55 (month 2), up to day 17 for CS-02 and up to day 4 for CS-03. Capability availability information up to month 4 is detailed above in Table 6-20, Table 6-21 and Table 6-22. It should be noted that response operations are able to be repeatedly redeployed throughout the response to allow protection of new priority locations as/ if they become at risk of contact if the oil continues to migrate.

The full list of shoreline RPAs is included in Table 3-1 and the full suite of Tactical Response Plans (TRPs) available for the identified RPAs is listed in ANNEX E: Tactical Response Plans. These TRPs detail response aims and methods specific to each location. Pre-emptive mobilisation of equipment and personnel would commence as soon as practicable prior to oil contact. Additional resources would be mobilised depending on the scale of the event to increase the length or number of shorelines being protected.

6.7.3 Shoreline Protection and Deflection – Control Measure Options Analysis

6.7.3.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures, are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Pre-position equipment at Response Protection Areas (RPAs)	Additional environmental benefit of having equipment prepositioned is considered minor as the RPAs predicted to be contacted are based on modelling outputs and thus may differ under the prevailing conditions of a real event making it impractical to preposition equipment in advance. Equipment is currently available to protect RPAs, however, deployment may be constrained by levels of volatile hydrocarbons arising from an MDO spill.	The incremental environmental benefit associated with these delivery options is unlikely to reduce the environmental consequence of a significant hydrocarbon release beyond the adopted delivery options. Considering the highly unlikely nature of a significant hydrocarbon release, the costs and organisational complexity associated with prepositioning and maintenance of equipment, the sacrifice is considered disproportionate to the environmental benefit that might be realised. Furthermore, these options would conflict with the mutual aid philosophy being adopted under the selected delivery options. The selected delivery options for shoreline protection and deflection meet the relevant objectives of this control measure and do not require prepositioned or additional equipment.	Total cost to preposition protection/ deflection packages at each site of potential impact would be approximately A\$6100 per package per day.	This option is not adopted as pre-positioning shoreline protection and deflection capability is not considered practicable due to uncertainty of the sites that may be contacted during a real spill event and the predicted time frames prior to contact. Safety factors have also been considered, including the potential for personnel to be exposed to volatile hydrocarbons in the early stage of the response. Given the rapid natural weathering rate of MDO, mobilising additional capability is not expected to provide a material net environmental benefit, therefore the current capability is considered to reduce the risk to ALARP.	No

6.7.3.2 Additional Control Measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Supplemented stockpiles of equipment to protect additional shorelines	Additional equipment would increase the number of receptor areas that could be protected from hydrocarbon contact. However, current availability of personnel and equipment is capable of protecting up to 30 km of shoreline, commensurate with the scale and progressive nature of shoreline impact. Additional stocks would be made available from international sources if long term up scaling were necessary. A reduction in environmental consequence from a 'B' rating is unlikely to be realised as a result of having more equipment available locally.	The incremental environmental benefit associated with these delivery options is considered minor and unlikely to reduce the environmental consequence of a significant hydrocarbon release beyond the adopted delivery options. Considering the highly unlikely nature of a significant hydrocarbon release and the costs and organisational complexity associated with prepositioning and maintenance of equipment, the sacrifice is considered disproportionate to the limited environmental benefit that might be realised. Furthermore, these options would conflict with the mutual aid philosophy being adopted under the selected delivery options. The selected delivery options for shoreline protection and deflection meet the relevant objectives of this control measure and do not require prepositioned or additional equipment.	Total cost for purchase supplemental protection and deflection equipment would be approximately A\$455,000 per package.	This option is not adopted as addition shoreline protection and deflection capability is not considered practicable in the time frame prior to contact. Whilst modelling for this activity predicts contact at 8 RPAs within 24-48 hours, it should be noted that this is based upon 200 stochastic model runs thus it is unfeasible for this to all occur from a single release. Safety factors have also been considered, including the potential for personnel to be exposed to volatile hydrocarbons in the early stage of the response. Given the rapid natural weathering rate of MDO, mobilising additional capability is not expected to provide a material net environmental benefit, therefore the current capability is considered to reduce the risk to ALARP.	No
Additional trained personnel	The level of training and competency of the response personnel allows the shoreline protection and deflection operation to be delivered with minimum secondary impact to the environment. Training additional personnel does not provide an increased environmental benefit.	Additional personnel required to sustain an extended response can be sourced through the Woodside <i>People & Global Capability Surge Labour Requirement Plan</i>. Additional personnel sourced from contracted OSROs (OSRL/AMOSC) to manage other responders. Response personnel are trained and exercised regularly in shoreline response techniques and	Additional specialist personnel would cost A\$2000 per person per day.	This option is not adopted as the existing capability meets the need. Safety factors have also been considered, including the potential for personnel to be exposed to volatile hydrocarbons in the early stage of the response. Given the rapid natural weathering rate of MDO, mobilising additional capability is not expected to provide a material net environmental benefit, therefore the current capability is considered	No

		methods. All personnel involved in a response will receive a full operational/safety briefing prior to commencing operations.		to reduce the risk to ALARP.	
--	--	---	--	------------------------------	--

6.7.3.3 Improved Control Measures

Improved Control Measures considered <i>Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Faster response/ mobilisation time	Modelling predicts floating or shoreline accumulation at threshold within 24 hours for CS-01 and CS-03, and within 48 hours for CS-02, thus faster response times are not practicable.	Response teams, trained personnel, contracted oil spill response service providers, government agencies and the associated mitigation equipment required to enact an initial protection and deflection response will be available for mobilisation within 24-48 hrs of activation. Additional equipment from existing stockpiles and oil spill response service providers can be on scene within days.	The cost of establishing a local stockpile of new mitigation equipment (including protection and deflection boom) closer to the expected hydrocarbon stranding areas is not commensurate with the need.	This option is not adopted as addition shoreline protection and deflection capability is not considered practicable in the time frames prior to contact. Safety factors have also been considered, including the potential for personnel to be exposed to hydrocarbon gas vapours in the early stage of the response. Given the rapid natural weathering rate of MDO, faster mobilisation is not expected to provide a material net environmental benefit, therefore the current capability is considered to reduce the risk to ALARP.	No

6.7.4 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP:

- alternative
 - none selected
- additional
 - none selected
- improved
 - none selected.

6.8 Shoreline Clean-up – ALARP Assessment

Alternative, additional and improved control measure options have been identified and assessed against the base capability described in Section 5.8. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.8.1 Existing Capability – Shoreline Clean-up

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft/vehicle location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.8.2 Response planning: Pyrenees Facility Operations activity – Shoreline Clean-up

Woodside has assessed existing capability against the WCCS and has identified that the range of techniques provide an ongoing approach to shoreline clean-up at identified RPAs.

For CS-01, the deterministic modelling run demonstrating the minimum time to shoreline contact at a threshold of >100 g/m² (Q1, Run 22) and the deterministic run with the greatest number of locations with accumulations at >100 g/m² (Q4, Run 22) have been selected for response planning and are combined in Table 6-23 below. Initial contact is predicted within 72 hours at Exmouth, Ningaloo Coast WH and State MP (1701 m³). For CS-02, the deterministic modelling run demonstrating the minimum time to shoreline contact at a threshold of >100 g/m² (Q1, Run 47) and the deterministic run with the greatest number of locations with accumulations at >100 g/m² (Q4, Run 2) have been selected for response planning and are combined in Table 6-24 below. Initial shoreline contact is predicted to occur within 48 hours at Exmouth, Ningaloo Coast WH and State MP (2029 m³). Stochastic modelling for CS-03 is included in Table 6-25 and indicates that contact at this threshold would occur within 24 hours initially at Exmouth, Ningaloo Coast WH and State MP (202 tonnes) and then at the Muiron Islands and MMA (126 tonnes).

Due to the ongoing shoreline stranding predicted from the deterministic modelling, this response may not be as time critical compared to other response techniques and the scale will depend on the success of other techniques deployed offshore that endeavour to prevent shoreline oiling. Further, the potential scale and remoteness of a response coupled with the uncertainty of which locations will be affected precludes the stockpiling or prepositioning of equipment specific to shorelines. The most significant constraint is accommodation and transport of personnel in Exmouth to undertake clean-up operations and to manage wastes generated during the response effort. From previous assessment of facilities in Exmouth, Woodside estimates that current accommodation can cater for a range of 500-700 personnel per day.

Table 6-23 below outlines the capability required (volume of oil on the shoreline) against the capability available (number of shoreline clean-up operations that can be mobilised and deployed). This capability is based upon Woodside's access to local response personnel and equipment. In the event of a protracted or worst-case event, Woodside has access to national and international response personnel and equipment which would be scaled to meet the response need. These volumes assume that no offshore mitigations have been applied.

Table 6-23: Response Planning – Shoreline Clean-up (CS-01)

	Shoreline Clean-up (Phase 2)	Day	Day	Day	Day	Day	Day	Day		Week	Week	Week		Month	Month	Month
		1	2	3	4	5	6	7		2	3	4		2	3	4
	Oil on shoreline (from deterministic modelling) m ³															
	Shoreline accumulation (above 100 g/m ²) – m ³	0	0	1,701	1,174	112	156	0		40	90	147		1,890	2	0
	Oil remaining following response operations – m ³	0	0	-75	1,551	2,625	2,637	2,693		0	-660	-610		-553	-910	-2,798
A Capability Required (number of operations)																
A1	SCU operations required (lower)	0	0	163	273	274	279	269		4	-57	-46		-53	-278	-280
A2	SCU operations required (upper)	0	0	232	389	391	399	385		6	-81	-66		-264	-1,388	-1,400
B Capability Available (number of operations)																
B1	SCU operations available – Stage 2 – Manual (lower)	0	15	15	20	20	20	20		105	105	105		560	560	560
B2	SCU operations available – Stage 2 – Manual (upper)	1	15	15	20	20	20	20		140	140	140		560	560	560
C Capability Gap																
C1	SCU operations gap (lower)	0	-15	148	253	254	259	249		-101	-162	-151		-613	-838	-840
C2	SCU operations gap (upper)	-1	-15	217	369	371	379	365		-134	-221	-206		-824	-1,948	-1,960

A1 and A2 – the number of Shoreline Clean-up operations required based on the hydrocarbon volumes ashore above 100 g/m²

B1 and B2 – the upper and lower number of shoreline clean-up operations available (based on response planning assumptions in Section 5.8),

C1 and C2 – the gap between the upper and lower number of shoreline clean-up operations required in A1 and A2 compared to the operations available in B1 and B2. NB green negative numbers denote a capability surplus.

Table 6-24: Response Planning – Shoreline Clean-up (CS-02)

	Shoreline Clean-up (Phase 2)	Day	Day	Day	Day	Day	Day	Day		Week	Week	Week		Month	Month	Month
		1	2	3	4	5	6	7		2	3	4		2	3	4
	Oil on shoreline (from deterministic modelling) m ³															
	Shoreline accumulation (above 100 g/m ²) – m ³	0	2,029	0	1,538	165	0	0		3,054	6,253	0		0	0	0
	Oil remaining following response operations – m ³	0	0	1,954	1,879	3,317	3,382	3,282		0	2,354	5,553		-700	-2,800	-2,800
A Capability Required (number of operations)																
A1	SCU operations required (lower)	0	203	195	342	348	338	328		305	861	555		-70	-280	-280
A2	SCU operations required (upper)	0	290	279	488	497	483	469		436	1,230	793		-350	-1,400	-1,400
B Capability Available (number of operations)																
B1	SCU operations available – Stage 2 – Manual (lower)	0	15	15	20	20	20	20		105	105	105		560	560	560
B2	SCU operations available – Stage 2 – Manual (upper)	1	15	15	20	20	20	20		140	140	140		560	560	560
C Capability Gap																
C1	SCU operations gap (lower)	0	188	180	322	328	318	308		200	756	450		-630	-840	-840
C2	SCU operations gap (upper)	-1	275	264	468	477	463	449		296	1090	653		-910	-1,960	-1,960

A1 and A2 – the number of Shoreline Clean-up operations required based on the hydrocarbon volumes ashore above 100 g/m²

B1 and B2 – the upper and lower number of shoreline clean-up operations available (based on response planning assumptions in Section 5.8),

C1 and C2 – the gap between the upper and lower number of shoreline clean-up operations required in A1 and A2 compared to the operations available in B1 and B2. NB green negative numbers denote a capability surplus.

Table 6-25: Response Planning – Shoreline Clean-up (CS-03)

	Shoreline Clean-up (Phase 2)	Day	Day	Day	Day	Day	Day	Day		Week	Week	Week		Month	Month	Month
		1	2	3	4	5	6	7		2	3	4		2	3	4
	Oil on shoreline (from deterministic modelling) – tonnes															
	Shoreline accumulation (above 100 g/m ²) – tonnes	328	0	0	6	0	0	0		0	0	0		0	0	0
	Oil remaining following response operations – tonnes	0	164	7	-68	-162	-262	-362		0	-700	-700		-700	-2,800	-2,800
A Capability Required (number of operations)																
A1	SCU operations required (lower)	39	16	1	-6	-16	-26	-36		0	-70	-70		-70	-280	-280
A2	SCU operations required (upper)	0	23	1	-9	-23	-37	-52		0	-100	-100		-350	-1,400	-1,400
B Capability Available (number of operations)																
B1	SCU operations available – Stage 2 – Manual (lower)	0	15	15	20	20	20	20		105	105	105		560	560	560
B2	SCU operations available – Stage 2 – Manual (upper)	1	15	15	20	20	20	20		140	140	140		560	560	560
C Capability Gap																
C1	SCU operations gap (lower)	39	1	-14	-26	-36	-46	-56		-105	-175	-175		-630	-840	-840
C2	SCU operations gap (upper)	-1	8	-14	-29	-43	-57	-72		-140	-240	-240		-910	-1,960	-1,960

A1 and A2 – the number of Shoreline Clean-up operations required based on the hydrocarbon volumes ashore above 100 g/m²

B1 and B2 – the upper and lower number of shoreline clean-up operations available (based on response planning assumptions in Section 5.8),

C1 and C2 – the gap between the upper and lower number of shoreline clean-up operations required in A1 and A2 compared to the operations available in B1 and B2. NB green negative numbers denote a capability surplus.

A shoreline clean-up response would be launched when monitor and evaluate and operational monitoring indicates the RPA(s) at which hydrocarbons have accumulated at thresholds for commencement of feasible shoreline clean-up activities. To be conservative, the response need above is calculated from the number of sites with predicted shoreline accumulations at a threshold of >100 g/m² – this is considered to be a hydrocarbon ‘stain’ per threshold descriptions in Table 5-12. Sites would be prioritised for clean-up based on their sensitivity together with prediction of highest magnitude accumulations.

Within 48 hours, Woodside can mobilise up to 15 response operations comprising its team of trained response personnel from Karratha (the ‘Burrup Response Team’) and appropriate shoreline response equipment. This capability increases to 20 operations by day 4. Teams would comprise 1 supervisor with 8 personnel/ labour hire up to 2 supervisors with 10 personnel/ labour hire. Each individual is predicted to be able to remove 0.25 m³ to 1 m³ oil/ oiled waste per day dependent upon the nature of the shoreline oiling. Shoreline contact at response thresholds for CS-01 is predicted up to day 55 (month 2), up to day 17 for CS-02 and up to day 4 for CS-03. Capability availability information up to month 4 is detailed above in Table 6-23, Table 6-24 and Table 6-25. It should be noted that response operations are able to be repeatedly redeployed to new locations throughout the response for ongoing clean-up if the oil continues to migrate.

6.8.3 Shoreline Clean-up – Control measure options analysis

6.8.3.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures, are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical alternative control measures identified.					

6.8.3.2 Additional Control Measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Additional trained personnel available	The level of training and competency of the response personnel allows the shoreline clean-up operation to be delivered with minimum secondary impact to the environment. Training additional personnel does not provide an increased environmental benefit.	Additional personnel required to sustain an extended response can be sourced through the Woodside <i>People & Global Capability Surge Labour Requirement Plan</i> . Additional personnel sourced from contracted OSROs (OSRL/AMOSC) to manage other responders. Response personnel are trained and exercised regularly in shoreline response techniques and methods. All personnel involved in a response will receive a full operational/safety briefing prior to commencing operations.	Additional specialist personnel would cost A\$2000 per person per day.	Whilst modelling for this activity predicts contact at 8 RPAs within 24-48 hours, it should be noted that this is based upon 200 stochastic model runs thus it is unfeasible for this to all occur from a single release. Larger numbers of additional personnel may also be detrimental to sensitive shoreline areas. Safety factors have also been considered, including the potential for personnel to be exposed to volatile hydrocarbons in the early stage of the response. Given the rapid natural weathering rate of MDO, mobilising additional capability is not expected to provide a material net environmental benefit, therefore the current capability is considered to reduce the risk to ALARP.	No
Additional trained personnel deployed	Maintaining a span of control of 200 competent personnel is deemed manageable and appropriate for this activity. Additional personnel conducting clean-up activities may be able to complete the clean-up in a shorter timeframe, but modelling predicts ongoing stranding of hydrocarbons over a period of weeks. Managing a smaller, targeted response is expected to achieve an environmental benefit through ensuring the shoreline clean-up response is suitable and scalable for the shoreline substrate and sensitivity type. This will reduce the risk of increased impact from the shoreline clean-up through the presence of unnecessary personnel and equipment.	The figure of 200 personnel is broken down to include on 1-2 trained supervisors managing 8-10 personnel/labour hire responders. This allows for multiple operational teams to operate along the extended shoreline at different locations. Typically, an additional 30-50% of the tactical workforce is required to support ongoing operations including on-scene control, logistics, safety/ medical/ welfare and transport. Personnel on site will include members with the appropriate specialties to efficiently clean-up the shoreline. Additional personnel are available through existing contracts with oil spill response organisations, labour hire organisations and environmental panel contractors.	Additional specialist personnel would cost A\$2000 per person per day.	Whilst modelling for this activity predicts contact at 8 RPAs within 24-48 hours, it should be noted that this is based upon 200 stochastic model runs thus it is unfeasible for this to all occur from a single release. Larger numbers of additional personnel may also be detrimental to sensitive shoreline areas. Safety factors have also been considered, including the potential for personnel to be exposed to volatile hydrocarbons in the early stage of the response. Given the rapid natural weathering rate of MDO, mobilising additional capability is not expected to provide a material net environmental benefit, therefore the current capability is considered to reduce the risk to ALARP.	No

6.8.3.3 Improved Control Measures

Improved Control Measures considered <i>Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Faster response/ mobilisation time	Modelling predicts floating or shoreline accumulation at threshold within 24 hours for CS-01 and CS-03, and within 48 hours for CS-02, thus faster response times	Response teams, trained personnel, contracted oil spill response service providers, government agencies and the associated mitigation equipment required to enact an initial protection and deflection response will	The cost of establishing a local stockpile of new shoreline clean-up equipment closer to the expected hydrocarbon stranding areas is not commensurate	This option is not adopted as additional shoreline clean-up capability is not considered practicable in the time frames prior to contact. Safety factors have also been considered, including the potential for personnel	No

	are not practicable.	be available for mobilisation within 24-48 hrs of activation. Additional equipment from existing stockpiles and oil spill response service providers can be on scene within days.	with the need.	to be exposed to hydrocarbon gas vapours in the early stage of the response. Given the rapid natural weathering rate of MDO, faster mobilisation is not expected to provide a material net environmental benefit, therefore the current capability is considered to reduce the risk to ALARP.	
--	----------------------	--	----------------	---	--

6.8.4 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP:

- alternative
 - none selected
- additional
 - none selected
- improved
 - none selected.

6.9 Oiled Wildlife Response – ALARP Assessment

Alternative, additional and improved control measure options have been identified and assessed against the base capability described in Section 5.9. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.9.1 Existing Capability – Oiled Wildlife Response

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft/vehicle location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.9.2 Oiled Wildlife Response – Control Measure Options Analysis

6.9.2.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures, are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Direct contracts with service providers	This option duplicates the capability accessed through AMOSC and OSRL and would compete for the same resources. Does not provide a significant increase in environmental benefit.	These delivery options provide increased effectiveness through more direct communication and control of specialists. However, no significant net benefit is anticipated.	Duplication of capability – already subscribed to through contracts with AMOSC and OSRL	This option is not adopted as the existing capability meets the need.	No

6.9.2.2 Additional Control Measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Additional wildlife treatment systems	The selected delivery options provide access to call-off contracts with selected specialist providers. The agreements ensure that these resources can be mobilised to meet the required response objectives, commensurate with the progressive nature of environmental impact and the time available to monitor hydrocarbon plume trajectories. Provides response equipment and personnel by Day 3. The additional cost in having a dedicated oiled wildlife response (equipment and personnel) in place is disproportionate to environmental benefit. These selected delivery options provide capacity to carry out an oiled wildlife response if contact is predicted; and to scale up the response if required to treat widespread contamination. Current capability meets the needs required and there is no additional environmental benefit in adopting the improvements.	Although hydrocarbon contact above wildlife response threshold concentrations (>10 g/m²) with offshore waters is expected from day one (CS-01, CS-02 and CS-03), given the low likelihood of such an event occurring and that the current capability meets the need, the cost of implementing measures to reduce the mobilisation time is considered disproportionate to the benefit. Additionally, the location of the release site provides sufficient opportunity for the ongoing monitoring and surveillance operations to inform the scale of the response. Numbers of oiled wildlife are expected to be low in the remote offshore setting of the oiled wildlife response, given the distance from known aggregation areas. Oiled wildlife response capacity would be addressed for open Commonwealth waters through the AMOSC arrangements, as informed by monitor and evaluate and operational monitoring. The cost and organisational complexity of this approach is moderate, and the overall delivery effectiveness is high.	Additional wildlife response resources could total A\$1,700 per operational site per day.	This option is not adopted as the existing capability meets the need.	No
Additional trained wildlife responders	Numbers of oiled wildlife are expected to be low in the remote offshore setting of the oiled wildlife response, given the distance from known aggregation areas. The potential environmental benefit of training additional personnel is expected to be low.	Current numbers meet the needs required and additional personnel are available through existing contracts with oil spill response organisations and environmental panel contractors. Additional equipment and facilities would be required to support ongoing response, depending on the scale of the event and the impact to wildlife and maybe sourced via existing contracts with OSROs. Materials	Additional wildlife response personnel cost A\$2,000 per person per day	This option is not adopted as the existing capability meets the need.	No

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

		for holding facilities, portable pools, enclosures and rehabilitation areas would be sourced as required.			
--	--	---	--	--	--

6.9.2.3 Improved Control Measures

Improved Control Measures considered <i>Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Faster mobilisation time for wildlife response	Response time is limited by specialist personnel mobilisation time. Current timing is sufficient for expected first shoreline contact. This control measure provides increased effectiveness through faster mobilisation of specialists. However, no significant net environmental benefit is expected due to shoreline stranding times.	Pre-positioning vessels or equipment would reduce mobilisation time for oiled wildlife response activities. However, given the effectiveness of an oiled wildlife response is expected to be low, an earlier response would provide a marginal increase in environmental benefit.	Wildlife response packages to preposition at vulnerable sites identified through the deterministic modelling cost A\$700 per package per day. The cost of having dedicated equipment and personnel available to respond faster is considered disproportionate to the environmental benefit.	This option is not adopted as the existing capability meets the need.	No

6.9.3 Selected control measures

Following review of alternative, additional and improved control measures, the following controls were selected for implementation for the PAP:

- alternative
 - none selected
- additional
 - none selected
- improved
 - none selected

6.10 Waste Management – ALARP Assessment

Alternative, additional and improved control measure options have been identified and assessed against the base capability described in Section 5.10. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.10.1 Existing Capability – Waste Management

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft/vehicle location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.10.2 Waste Management – Control Measure Options Analysis

6.10.2.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures, are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical alternative control measures identified.					

6.10.2.2 Additional Control Measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Increased waste storage capability	The procurement of waste storage equipment options on the day of the event will allow immediate response and storage of collected waste. The environmental benefit of immediate waste storage is to reduce ecological consequence by safely securing waste, allowing continuous response operations to occur.	Access to Woodside's waste service provider's storage options provides the resources required to store and transport sufficient waste to meet the need. Access to waste contractors existing facilities enables waste to be stockpiled and gradually processed within the regional waste handling facilities. Additional temporary storage equipment is available through existing contract and arrangements with AMOSC/ OSRL. Existing arrangements meet identified need for the PAP from day 4 onwards.	Cost for increased waste disposal capability would be approximately A\$1300 per m ³ . Cost for increased onshore temporary waste storage capability would be approximately A\$40 per unit per day.	This option is not adopted as the existing capability meets the need.	No

6.10.2.3 Improved Control Measures

Improved Control Measures considered <i>Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Faster response time	The access to Veolia waste storage options provides the resources to store and transport waste, permitting the wastes to be stockpiled and gradually processed within the regional waste handling facilities. Bulk transport to Veolia's licensed waste management facilities would be undertaken via controlled-waste-licensed vehicles and in accordance with Environmental Protection (Controlled Waste) Regulations 2004. The environmental benefit from successful waste storage will reduce pressure on the treatment and disposal facilities reducing ecological consequences by safely securing waste. In addition, waste storage and transport will allow continuous response	Woodside already maintains an equipment stockpile in Exmouth to enable shorter response times to incidents. This stockpile includes temporary waste storage equipment. Woodside has access to stockpiles of waste storage and equipment in Dampier and Exmouth through existing contracts and arrangements.	The incremental benefit of having a dedicated local Woodside owned stockpile of waste equipment and transport is considered minor and cost is considered disproportionate to the benefit gained given predicted shoreline contact times.	This option is not adopted.	No

	operations to occur. This delivery option would increase known available storage, eliminating the risk of additional resources not being available at the time of the event. However, the environmental benefit of Woodside procuring additional waste storage is considered minor as the risk of additional storage not being available at the time of the event is considered low and existing arrangements provide adequate storage to support the response.				
--	---	--	--	--	--

6.10.3 Selected control measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP:

- alternative
 - none selected
- additional
 - none selected
- improved
 - none selected.

6.11 Operational and Scientific Monitoring – ALARP Assessment

Alternative, additional and improved control measure options have been identified and assessed against the base capability described in Section 5.11. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.11.1 Existing Capability – Operational and Scientific Monitoring

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/ vessel/ aircraft/ vehicle location and duties, survey or classification society inspection requirements, overflight/ port/ quarantine permits and inspections, crew/ pilot duty and fatigue hours, refuelling/ re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.11.2 Operational and Scientific Monitoring – Control Measure Options Analysis

6.11.2.1 Alternative Control Measures

Alternative Control Measures considered <i>Alternative control measures, including potentially more effective and/or novel control measures, are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Dedicated contracted OSM vessel (exclusive to Woodside)	Would provide marginally faster mobilisation time of initial monitoring resources. However, the timescale difference would be limited when compared to the availability of in-field support vessels which are equipped with water quality sampling equipment, meaning it would result in very minor to no environmental benefit.	Chartering and equipping additional vessels on standby for operational and scientific monitoring has been considered. The option is reasonably practicable but the sacrifice (charter costs and organisational complexity) is significant, particularly when existing contracted support vessels can be equipped with water quality sampling equipment. Additionally, vessels are not the limiting factor in deployment times, as the majority of operational and scientific monitoring components require trained specialists, who can take > 72 hours to mobilise.	The cost and organisational complexity of contracting a dedicated response vessel is considered disproportionate to the marginal environmental benefit by adopting these delivery options.	This control measure is not adopted as the costs and complexity are considered disproportionate to any environmental benefit that might be realised.	No

6.11.2.2 Additional control measures

Additional Control Measures considered <i>Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Pre-position a team of trained scientific monitoring personnel on standby in Exmouth	Pre-positioning a team of trained scientific monitoring personnel closer to the spill location would result in quicker mobilisation times for one or two priority OMPs or SMPs to be implemented.	A trained team of scientific monitoring personnel positioned in Exmouth could result in a more rapid deployment of initial monitoring. However, this option is reliant on suitable vessels being readily available in Exmouth and not requiring relocation from nearby ports or adjacent offshore locations.	The costs of having a small team of trained scientific monitoring personnel available on standby in Exmouth would be in excess of \$3-4M / annum and would be an associated cost to the activity whether there was a spill or not.	The cost of maintaining a team of trained scientific monitoring personnel on standby in Exmouth is considered disproportionate, as multiple teams of trained personnel are required to implement multiple OMPs and SMPs. It is considered more cost effective and feasible to pre-position sampling kits on support vessels (see below).	No
Contract additional OSM Service Providers to increase availability of monitoring personnel in the first 2 weeks of the spill	The availability of additional monitoring personnel could theoretically increase the number of receptors and locations able to be monitored, however, the ability to deploy personnel would be subject to a range of feasibility considerations.	This option has been considered and evaluated; however, it has been discounted on the basis that deploying a significantly larger number of monitoring teams concurrently with response operations would introduce additional safety, environmental, and operational risks. The current resource assessment within Table C-9 indicates that up to 35 monitoring teams may be required during the initial two weeks of the response. Expanding this effort further by engaging additional contracted monitoring teams would likely result in increased simultaneous operations (SIMOPs), elevating the potential for vessel interactions, collision risks, anchoring impacts, and waste discharges, thereby increasing the overall risk profile. To ensure risk remains ALARP, a staged and scalable approach to resourcing has been adopted. Should additional monitoring capacity be required from week 3 onwards, this will be identified early	Cost to contract an additional OSM Service Provider.	The option to contract an additional OSM Service Provider to increase the number of contracted monitoring teams during the initial stages of the spill response has been assessed and found not to be reasonably practicable due to the elevated safety and environmental risks associated with SIMOPs, including vessel collisions, anchoring impacts, and waste discharges. These risks outweigh the marginal benefit of increased early-stage monitoring coverage, particularly given the scale of the existing response and monitoring deployment already planned.	No

		through ongoing review of monitor and evaluate activities and existing monitoring efforts. Woodside will activate additional resourcing via its existing contract with the OSM Services Provider, thereby ensuring a streamlined and controlled expansion of effort. By this stage of the response, operational response activities are expected to have stabilised, reducing the likelihood and severity of SIMOPs-related risks. In addition, efficiencies may be gained by reallocating existing monitoring teams to other priority receptors where monitoring is still required, particularly in cases where termination criteria have been met at initial locations. This dynamic resourcing approach ensures that additional personnel are only deployed when necessary, thereby supporting both environmental and safety performance outcomes and maintaining ALARP principles throughout the monitoring program.			
Purchase initial water quality / hydrocarbon sampling kits for pre-positioning on nearby support vessels and develop technical procedure for sample collection	The availability of initial water quality / hydrocarbon sampling kits on nearby support vessels (and an accompanying technical procedure for sample collection) will provide an opportunity for more rapid initial measurements of hydrocarbon properties and concentrations. This information will provide important initial situational awareness information that will aid decision making in both monitoring and response efforts.	This control measure will improve the availability and timeframe for initial water quality sampling.	Implementing this additional control measure will involve time and effort to source and supply initial sampling kits to the selected supply vessels. There will also be employee time involved in developing and conducting training to vessel crews on the technical procedure for sample collection.	Adoption of this control measure will provide an additional and quicker opportunity for initial water quality sampling, resulting in improved situational awareness for decision making in monitoring and response teams.	Yes
Modify Woodside Aerial Surveillance Observer Log to enable observers to record marine fauna sightings (presence and type of fauna)	Initial aerial surveillance provides important information for decision making in response operations, but can also provide important initial environmental monitoring data. Amending the Woodside Aerial Surveillance Observer Log to include the ability to report on location, presence and type of fauna could assist in a more rapid, effective deployment of specialised OMP teams for Marine Fauna Assessment and Oiled Wildlife Response.	This control measure is considered reasonably practicable to implement.	Cost to modify the Aerial Surveillance Observer Log is minimal and is associated with time and effort of existing employees.	Adoption of this control measure is considered to be beneficial as it could assist in more effective and efficient deployment of fauna monitoring and response efforts.	Yes
Conduct periodical review of existing baseline data sources across receptors predicted to be contacted within 7 days at the low thresholds and a probability $\geq 10\%$	This ensures that receptors with deficient baseline data are identified. This is a consideration for initial monitoring prioritisation and the finalisation of each SMP design	This control measure is considered reasonably practicable to implement.	Cost of contract with Service Provider.	Understanding the presence or absence, suitability and quality of baseline data for receptors predicted to be contacted within 7 days, at a probability $\geq 10\%$, is an important preparatory measure. Understanding which receptors have insufficient baseline data will help quickly guide monitoring prioritisation and the finalisation of each SMP design and whether there is a need to include alternative designs.	Yes

6.11.2.3 Improved Control Measures considered

Improved Control Measures considered <i>Improved, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control</i>					
Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Adoption of the OSRL OSM Supplementary Service Agreement for OSM capability provision	A Joint Industry capability provision has considerable benefits, including an improvement to industry OSM standards; improved reliability in accessing specialist personnel; efficiencies and capability growth associated with shared testing and exercising; and greater depth in Monitoring Service Provider (MSP) capability, with a centralised contract coordinating multiple consultancies and MSPs.	This control measure has already been developed by Industry and is considered reasonably practicable to implement.	Cost of annual subscription to OSRL OSM Supplementary Service Agreement	Adopting this control measure involves additional costs, but the benefits of a Joint Industry OSM capability provision outweighs the costs and therefore this additional measure has been accepted.	Yes
Determine the required specifications for suitable monitoring vessels, including	Understanding vessel specification requirements for OSM at priority locations will result in quicker mobilisation times, and more effective monitoring, as correctly equipped vessels will be made available at the commencement of the monitoring effort.	This control measure is considered reasonably practicable to implement.	Cost to determine vessel specifications is minimal and is associated with time and effort of existing employees.	This control measure would result in the correct vessels being mobilised for monitoring personnel and result in quicker implementation of monitoring.	Yes

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

specialised equipment for OMPs and SMPs (i.e. hiab) and the requirement of shallow draft vessels to access offshore islands and priority monitoring areas					
---	--	--	--	--	--

6.11.3 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP:

- alternative
 - none selected
- additional
 - purchase water quality / hydrocarbon sampling kits for pre-positioning on nearby support vessels and develop technical procedure for sample collection
 - modify Woodside Aerial Surveillance Observer Log to enable observers to record marine fauna sightings (presence and type of fauna)
 - conduct periodical review of existing baseline data sources for receptors predicted to be contacted within 7 days, at the low thresholds and a probability ≥ 10%.
- improved
 - adoption of the OSRL OSM Supplementary Service Agreement for OSM capability provision
 - determine the required specifications for suitable monitoring vessels, including specialised equipment for OMPs and SMPs (i.e. hiab) and the requirement of shallow draft vessels to access offshore islands and priority monitoring areas

6.11.4 ALARP and Acceptability Summary

ALARP and Acceptability Summary		
Operational and Scientific Monitoring		
ALARP Summary	X	Known reasonably practicable control measures have been adopted.
	X	No additional, alternative and improved control measures would provide further benefit.
	X	No reasonably practical additional, alternative, and/or improved control measure exists.
	The resulting operational and scientific monitoring capability has been assessed against the credible spill scenarios. The range of techniques provide an ongoing approach to monitoring operations to assess and evaluate the scale and extent of impacts. Known reasonably practicable control measures have been adopted with the cost and organisational complexity of these options determined to be moderate and the overall delivery effectiveness considered medium. The operational and scientific monitoring's main objectives can be met, with the addition of one alternative control measures to provide further benefit.	
Acceptability Summary	• The control measures selected for implementation manage the potential impacts and risks to ALARP. • In the event of a hydrocarbon spill for the PAP, the control measures selected, meet or exceed the requirements of Woodside Management System and industry best-practice. • Operational and Scientific Monitoring control and activities are compliant with relevant environmental legislation and regulations, including the EPBC Act. • Throughout the PAP, relevant Australian standards and codes of practice will be followed to evaluate the impacts from a loss of well control. • Consultation undertaken for the PAP did not receive feedback regarding concerns for Operational and Scientific Monitoring activities in response to a hydrocarbon spill. • The level of impact and risk to the environment has been considered with regards to the principles of ESD and risks and impacts from a range of identified scenarios were assessed in detail. The control measures described consider the conservation of biological and ecological diversity, through both the selection of control measures and the management of their performance. The control measures have been developed to account for credible case scenarios, and uncertainty has not been used as a reason for postponing control measures.	
On the basis from the impact assessment above and in Section 6.8 of the EP, Woodside considers the adopted controls discussed manage the impacts and risks associated with implementing operational and scientific monitoring activities to a level that is ALARP and acceptable.		

7 ENVIRONMENTAL RISK ASSESSMENT OF SELECTED RESPONSE TECHNIQUES

The implementation of response techniques may modify the impacts and risks identified in the EP and response activities can introduce additional impacts and risks from response operations themselves. Therefore, it is necessary to complete an assessment so these impacts and risks have been considered and specific measures are put in place to continually review and manage further impacts and risks to ALARP and an acceptable level. A simplified assessment process has been used to complete this task which covers the identification, analysis, evaluation and treatment of impacts and risks introduced by responding to the event.

7.1 Identification of impacts and risks from implementing response techniques

Each of the control measures can modify the impacts and risks identified in the EP. These impacts and risks have been previously assessed within the scope of the EP. Refer to the EP for details regarding how these risks are being managed. They are not discussed further in this document.

- Atmospheric emissions
- Routine and non-routine discharges
- Physical presence, proximity to other vessels (shipping and fisheries)
- Routine acoustic emissions vessels
- Lighting for night work/navigational safety
- Invasive marine species
- Collision with marine fauna
- Disturbance to Seabed

Additional impacts and risks associated with the control measures not included within the scope of the EP include:

- Drill cuttings and drilling fluids environmental impact assessment for relief well drilling
- Vessel operations and anchoring
- Presence of personnel on the shoreline
- Increase in entrained hydrocarbons
- Toxicity of dispersant
- Human presence (manual cleaning)
- Vegetation cutting
- Additional stress or injury caused to wildlife
- Secondary contamination from the management of waste

7.2 Analysis of impacts and risks from implementing response techniques

The table below compares the adopted control measures for this activity against the environmental values that can be affected when they are implemented.

Table 7-1: Analysis of risks and impacts

Response technique	Environmental Value						
	Soil and Groundwater	Marine Sediment Quality	Water Quality	Air Quality	Ecosystems/ Habitat	Species	Socio-Economic
Monitor and evaluate✓	✓		✓	✓		✓	
Source control		✓	✓	✓	✓		
Subsea dispersant injection		✓	✓	✓	✓	✓	✓
Surface dispersant application		✓	✓	✓	✓	✓	✓
Containment and recovery			✓	✓		✓	✓
Shoreline protection and deflection	✓	✓			✓	✓	✓
Shoreline clean-up	✓	✓			✓	✓	✓
Oiled wildlife				✓	✓	✓	
Operational and Scientific monitoring	✓	✓	✓	✓			
Waste management	✓	✓	✓				✓

7.3 Evaluation of impacts and risks from implementing response techniques

Drill cuttings and drilling fluids environmental impact assessment for relief well drilling

The identified potential impacts associated with the discharge of drill cuttings and fluids during a relief well drilling activity include a localised reduction in water and seabed sediment quality, and potential localised changes to benthic biota (habitats and communities).

A number of direct and indirect ecological impact pathways are identified for drill cuttings and drilling fluids as follows:

- Temporary increase in total suspended solids (TSS) in the water column;
- Attenuation of light penetration as an indirect consequence of the elevation of TSS and the rate of sedimentation;
- Sediment deposition to the seabed leading to the alteration of the physio-chemical composition of sediments, and burial and potential smothering effects to sessile benthic biota; and
- Potential contamination and toxicity effects to benthic and in-water biota from drilling fluids.

Potential impacts from the discharge of cuttings range from the complete burial of benthic biota in the immediate vicinity of the well site due to sediment deposition, smothering effects from raised sedimentation concentrations as a result of elevated Total Suspended Solids (TSS), changes to the physico-chemical properties of the seabed sediments (particle size distribution and potential for reduction in oxygen levels within the surface sediments due to organic matter degradation by aerobic bacteria) and subsequent changes to the composition of infauna communities to minor sediment loading above background and no associated ecological effects. Predicted impacts are generally confined to within a few hundred metres of the discharge point (International Association of Oil and Gas Producers 2016) (ie within the EMBA for a hydrocarbon spill event).

The discharge of drill cuttings and unrecoverable fluids from relief well drilling is expected to increase turbidity and TSS levels in the water column, leading to an increased sedimentation rate above ambient levels associated with the settlement of suspended sediment particles in close proximity to the seabed or below sea surface, depending on location of discharge. Cuttings with retained (unrecoverable) drilling fluids are discharged below the water line at the MODU location, resulting in drill cuttings and drilling fluids rapidly

diluting, as they disperse and settle through the water column. The dispersion and fate of the cuttings is determined by particle size and density of the retained (unrecoverable) drilling fluids, therefore, the sediment particles will primarily settle in proximity to the well locations with potential for localised spread downstream (depending on the speed of currents throughout the water column and seabed) (IOGP 2016). The finer particles will remain in suspension and will be transported further before settling on the seabed.

These conclusions were supported by discharge modelling which was undertaken by Woodside in support of the Greater Enfield Development Environment Plan. Modelling results indicating that the TSS plume of suspended cuttings will typically disperse to the south-west while oscillating with the tide and diminish rapidly with increasing distance from the well locations. Maximum TSS concentrations predicted for 100 m; 250 m and 1 km distances from the wellsite were 7, 5 and 1 mg/l, respectively. Furthermore, water column concentrations below 10 mg/l remain within 235 m of the discharge location for each modelled well. For all well discharge locations (outside of direct discharge sites), TSS concentration did not exceed 10 mg/l. Nelson et al. (2016) identified <10 mg/L as a no effect or sub-lethal minimal effect concentration.

The low sensitivity of the deep-water benthic communities/habitats within and in the vicinity of relief well locations, combined with the relatively low toxicity of WBM and NWBMs, no bulk discharges of NWBM and the highly localised nature and scale of predicted physical impacts to seabed biota indicate that any localised impact would likely be of a slight magnitude (especially when considering the broader consequence of the LOC event a relief well drilling activity would be responding too).

Vessel operations and anchoring

Typical booms used in containment and recovery operations are designed to float, meaning that fauna capable of diving, such as cetaceans, marine turtles and seasnakes can readily avoid contact with the boom. Impacts to species that inhabit the water column such as sharks, rays and fish are not expected. Additionally, some fauna, such as cetaceans, are likely to detect and avoid the spill area, and are not expected to be present in the proximity of containment and recovery operations.

During the implementation of response techniques, where water depths allow, it is possible that response vessels will be required to anchor (e.g. during shoreline surveys). The use of vessel anchoring will be minimal and likely to occur when the impacted shoreline is inaccessible via road. Anchoring in the nearshore environment of sensitive receptor locations will have the potential to impact coral reef, seagrass beds and other benthic communities in these areas. Recovery of benthic communities from anchor damage depends on the size of anchor and frequency of anchoring. Impacts would be highly localised (restricted to the footprint of the vessel anchor and chain) and temporary, with full recovery expected.

Distribution of entrained hydrocarbons

Surface dispersant application is intended to treat floating hydrocarbons, thereby reducing the risk of air breathing marine fauna (e.g. cetaceans, dugongs, marine turtles, seabirds and shorebirds) from becoming oiled. It also has the potential to reduce/eliminate contamination of sensitive intertidal habitats such as mangroves, coral reefs, salt marshes and sandy shores (recreational and tourist areas) through the reduction in shoreline loadings.

Chemical dispersants act to break up hydrocarbons by reducing surface tension between the oil and the surrounding water. Dispersants, whether applied on the surface or subsea, result in the breakup of hydrocarbons into micron-sized droplets, which are easier to disperse throughout the water column. These small, dispersed hydrocarbons droplets are degraded by bacteria due to the increased surface area presented by the small droplets. The application of dispersants can enhance biodegradation and dissolution, reducing the volume of hydrocarbons that have the potential to impact shorelines.

Surface application of dispersants results in the micron-sized droplets being mixed into the upper layer of the water column, usually the first 10 to 20 m, through wave and wind energy. These elevated concentrations of dispersed hydrocarbons within the upper layer of the water column are rapidly diluted through vertical and horizontal mixing. The application of surface dispersants may result in a greater risk that water column and subtidal habitats could be exposed to elevated concentrations of dispersed hydrocarbons.

Toxicity of dispersants

The evaluation of the potential impacts to the receiving environment needs to consider not only the redistribution of hydrocarbons into the water column, but also the potential toxic nature of the dispersant applied and the toxicity effects of dispersed hydrocarbons.

The potential toxicity to the marine environment can be from the chemical/dispersant itself but also chemical dispersion of hydrocarbon can increase the concentration of toxic hydrocarbon compounds in the water column (Anderson et al 2014). Subtidal habitats and communities such as coral reefs, seagrass meadows, plankton, fish, known spawning grounds and periods of increased reproductive outputs (early life stages of fish and invertebrates i.e. meroplankton) are susceptible to toxic effects of chemically dispersed hydrocarbons.

Presence of personnel on the shoreline

Presence of personnel on the shoreline during shoreline operations could potentially result in disturbance to wildlife and habitats. During the implementation of response techniques, it is possible that personnel may have minimal, localised impacts on habitats, wildlife and coastlines. The impacts associated with human presence on shorelines during shoreline surveys may include:

- Damage to vegetation/habitat to gain access to areas of shoreline oiling;
- Damage or disturbance to wildlife during shoreline surveys;
- Removal of surface layers of intertidal sediments (potential habitat depletion); and
- Excessive removal of substrate causing erosion and instability of localised areas of the shoreline.

Human presence

Human presence for manual clean-up operations may lead to the compaction of sediments and damage to the existing environment especially in sensitive locations such as mangroves and turtle nesting beaches. However, any impacts are expected to be localised with full recovery expected.

Waste generation

Implementing the selected response techniques will result in the generation of the following waste streams that will require management and disposal:

- Liquids (recovered oil/water mixture), recovered from containment and recovery and shoreline clean-up operations
- Semi-solids/solids (oily solids), collected during containment and recovery and shoreline clean-up operations
- Debris (e.g. seaweed, sand, woods, plastics), collected during containment and recovery and shoreline clean-up operations and oiled wildlife response.

If not managed and disposed of correctly, wastes generated during the response have the potential for secondary contamination similar to that described above, impacts to wildlife through contact with or ingestion of waste materials and contamination risks if not disposed of correctly onshore.

Cutting back vegetation could allow additional oil to penetrate the substrate and may also lead to localised habitat loss. However, any loss is expected to be localised in nature and lead to an overall net environmental benefit associated with the response by reducing exposure of wildlife to oiling.

Additional stress or injury caused to wildlife

Additional stress or injury to wildlife could be caused through the following phases of a response:

- Capturing wildlife
- Transporting wildlife
- Stabilisation of wildlife
- Cleaning and rinsing of oiled wildlife
- Rehabilitation (e.g. diet, cage size, housing density)
- Release of treated wildlife

Inefficient capture techniques have the potential to cause undue stress, exhaustion or injury to wildlife, additionally pre-emptive capture could cause undue stress and impacts to wildlife when there are uncertainties in the forecast trajectory of the spill. During the transportation and stabilisation phases there is the potential for additional thermoregulation stress on captured wildlife. Additionally, during the cleaning

process, it is important personnel undertaking the tasks are familiar with the relevant techniques to ensure that further injury and the removal of water proofing feathers are managed and mitigated. Finally, during the release phase it's important that wildlife is not released back into a contaminated environment.

7.4 Treatment of impacts and risks from implementing response techniques

In respect of the impacts and risks assessed the following treatment measures have been adopted. It must be recognised that this environmental assessment is seeking to identify how to maintain the level of impact and risks at levels that are ALARP and of an acceptable level rather than exploring further impact and risk reduction. It is for this reason that the treatment measures identified in this assessment will be captured in Operational Plans, Tactical Response Plans, and/or First Strike Plans.

Vessel operations and access in the nearshore environment

- The boom will be monitored and maintained to ensure trapped fauna are released as early as possible, with Containment and Recovery activities occurring in daylight hours only (Performance Standard (PS) 21.3)
- If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified (PS 21.1, PS 24.1, PS 27.1, PS 39.4).
- Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines (PS 21.2, PS 24.2, PS 27.2, PS 39.5)

Distribution of entrained hydrocarbons

- Subsea/ surface dispersant injection efficacy monitoring will be conducted in accordance with the Woodside OSM-BIP and OM4: Dispersant Effectiveness and Fate Assessment (APPEA, 2021) (PS 13.2, PS 17.3)
- Surface dispersants will only be applied in the Zone of Application and on BAOAC 4 and 5 oil. (PS 17.1)

Toxicity of dispersants

- Approved dispersants prioritised for surface and subsea use (PS 13.1, PS 17.2)

Presence of personnel on the shoreline

- Oversight by trained personnel who are aware of the risks (PS 27.6)
- Trained unit leader's brief personnel of the risks prior to operations (PS 27.7)

Human Presence

- Shoreline access route (foot, car, vessel and helicopter) with the least environmental impact identified will be selected by a specialist in SCAT operations (PS 27.5, PS 39.3)
- Vehicular access will be restricted on dunes, turtle nesting beaches and in mangroves (PS 27.3, PS 39.6)

Waste generation

- All shoreline clean-up sites will be zoned and marked before clean-up operations commence to prevent secondary contamination and minimise the mixing of clean and oiled sediment and shoreline substrates. (PS 25.4)
- Removal of vegetation will be limited to moderately or heavily oiled vegetation (PS 27.4)
- Teams will segregate liquid and solid wastes at the earliest opportunity (PS 33.1).

Additional stress or injury caused to wildlife

- Oiled wildlife operations (including hazing) would be implemented with advice and assistance from the Oiled Wildlife Advisor from the DBCA, and in accordance with the processes and methodologies described in the WA OWRP and the relevant regional plan (PS 31.1).

8 ALARP CONCLUSION

An analysis of alternative, additional and improved control measures has been undertaken to determine their reasonableness and practicability. The tables in Section 6 document the considerations made in this evaluation. Where the costs of an alternative, additional, or improved control measure have been determined to be disproportionate to the environmental benefit gained from its adoption, it has been rejected. Where this is not considered to be the case, the control measure has been adopted.

The risks from a hydrocarbon spill have been reduced to ALARP because:

- Woodside has a significant hydrocarbon spill response capability to respond to the WCCS through the control measures identified.
- New and modified impacts and risks associated with implementing response techniques have been considered and will not increase the risks associated with the activity.
- A consideration of alternative, additional, and improved control measures identified any other control measures that delivered proportionate environmental benefit compared to the cost of adoption for this activity ensuring that:
 - Known, reasonably practicable control measures have been adopted.
 - No additional, reasonably practicable alternative and/or improved control measures would provide further environmental benefit.
 - No reasonably practical additional, alternative, and/or improved control measure exists.
- A structured process for considering alternative, additional, and improved control measures was completed for each control measure.
- The evaluation was undertaken based on the outputs of the WCCS so that the capability in place is sufficient for all other scenario from this activity.
- The likelihood of the WCCS spill has been ignored in evaluating what was reasonably practicable.

9 ACCEPTABILITY CONCLUSION

Following the ALARP evaluation process, Woodside deems the hydrocarbon spill risks and impacts have been reduced to an acceptable level by meeting the following criteria:

- Techniques are consistent with Woodside's processes and relevant internal requirements including policies, culture, processes, standards, structures and systems.
- Levels of risk/impact are deemed acceptable by relevant persons/organisations and are aligned with the uniqueness of, and/or the level of protection assigned to the environment, its sensitivity to pressures introduced by the activity, and the proximity of activities to sensitive receptors, and have been aligned with Part 3 of the EPBC Act.
- Selected control measures meet requirements of legislation and conventions to which Australia is a signatory (e.g. MARPOL, the World Heritage Convention, the Ramsar Convention, and the Biodiversity Convention etc.). In addition to these, other non-legislative requirements met include:
 - Australian IUCN reserve management principles for Commonwealth marine protected areas and bioregional marine plans
 - National Water Quality Management Strategy and supporting guidelines for marine water quality)
 - conditions of approval set under other legislation
 - national and international requirements for managing pollution from ships
 - national biosecurity requirements.
- Industry standards, best practices and widely adopted standards and other published materials have been used and referenced when defining acceptable levels. Where these are inconsistent with mandatory/legislative regulations, explanation has been provided for the proposed deviation. Any deviation produces the same or a better level of environmental performance (or outcome).

10 GLOSSARY AND ABBREVIATIONS

10.1 Glossary

Term	Description / Definition
ALARP	Demonstration through reasoned and supported arguments that there are no other practicable options that could reasonably be adopted to reduce risks further.
Availability	The availability of a control measure is the percentage of time that can perform its function (operating time plus standby time) divided by the total period (whether in service or not). In other words, it is the probability that the control has not failed or is undergoing a maintenance or repair function when it needs to be used.
Control	The means by which risk from events is eliminated or minimised.
Control effectiveness	A measure of how well the control measures perform its required function.
Control measure (risk control measure)	The features that eliminate, prevent, reduce or mitigate the risk to environment associated with PAP.
Credible spill scenario	A spill considered by Woodside as representative of maximum volume and characteristics of a spill that could occur as part of the PAP.
Dependency	The degree of reliance on other systems for the control measure to be able to perform its intended function.
Environment that may be affected	The summary of quantitative modelling where the marine environment could be exposed to hydrocarbons levels exceeding hydrocarbon threshold concentrations.
Incident	An event where a release of energy resulted in or had (with) the potential to cause injury, ill health, damage to the environment, damage to equipment or assets or company reputation.
Major Environment Event	The events with potential environment, reputation, social or cultural consequences of category C or higher (as per Woodside's operational risk matrix) which are evaluated against credible worst-case scenarios which may occur when all controls are absent or have failed.
Performance outcome	A statement of the overall goal or outcome to be achieved by a control measure
Performance standard	The parameters against which [risk] controls are assessed so they reduce risk to ALARP. A statement of the key requirements (indicators) that the control measure must achieve to perform as intended in relation to its functionality, availability, reliability, survivability and dependencies.
Preparedness	Measures taken before an incident to improve the effectiveness of a response
Reasonably practicable	... a computation ... made by the owner, in which the quantum of risk is placed on one scale and the sacrifice involved in the measures necessary for averting the risk (whether in money, time or trouble) [showing whether or not] that there is a gross disproportion between them ... made by the owner at a point of time anterior to the accident. (Judgement: Edwards v National Coal Board [1949])
Receptors at risk	Physical, biological and social resources identified as at risk from hydrocarbon contact using oil spill modelling predictions.
Receptor areas	Geographically referenced areas such as bays, islands, coastlines and/or protected area (WHA, Commonwealth or State marine reserve or park) containing one or more receptor type.
Receptor Sensitivities	This is a classification scheme to categorise receptor sensitivity to an oil spill. The Environmental Sensitivity Index (ESI) is a numerical classification of the relative sensitivity of a particular environment (particularly different shoreline types) to an oil spill. Refer to the Woodside Oil Pollution Emergency Arrangements (Australia) for more details.
Regulator	NOPSEMA is the Environment Regulator under the Environment Regulations.
Reliability	The probability that at any point in time a control measure will operate correctly for a further specified length of time.

Term	Description / Definition
Response technique	The key priorities and objectives to be achieved by the response plan Measures taken in response to an event to reduce or prevent adverse consequences.
Survivability	Whether or not a control measure is able to survive a potentially damaging event is relevant for all control measures that are required to function after an incident has occurred.
Threshold	Hydrocarbon threshold concentrations applied to the risk assessment to evaluate hydrocarbon spills. These are defined as: surface hydrocarbon concentration – $\geq 10 \text{ g/m}^2$, dissolved – $\geq 50 \text{ ppb}$ and entrained hydrocarbon concentrations – $\geq 100 \text{ ppb}$.
Zone of Application	The zone in which Woodside may elect to apply dispersant. The zone is determined based on a range of considerations, such as hydrocarbon characteristics, weathering and metocean conditions. The zone is a key consideration in the Net Environmental Benefit Analysis for dispersant use.

Abbreviations

Abbreviation	Meaning
ADIOS	Automated Data Inquiry for Oil Spills
AEP	Australian Energy Producers (formerly APPEA)
ALARP	As low as reasonably practicable
AMOSC	Australian Marine Oil Spill Centre
AMP	Australian Marine Park
AMSA	Australian Maritime Safety Authority
AUV	Autonomous Underwater Vehicle
BAOAC	Bonn Agreement Oil Appearance Code
BOP	Blowout Preventer
cSt	Centistokes
CIMT	Corporate Incident Management Team
DM	Duty Manager
DTMI	Western Australia Department of Transport and Major Infrastructure
DBCA	Western Australia Department of Biodiversity, Conservation and Attractions
DWER	Western Australia Department of Water and Environmental Regulation
EMBA	Environment that May Be Affected
EMSA	European Maritime Safety Agency
EP	Environment Plan
Environment Regulations	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023
ESI	Environmental Sensitivity Index
ESD	Emergency Shut Down
ESP	Environmental Services Panel
FPSO	Floating Production Storage Offloading
FSP	First Strike Plan
GIS	Geographic Information System
GPS	Global Positioning System
HSP	Hydrocarbon Spill Preparedness
IAP	Incident Action Plan
IC	Incident Commander
ICS	Incident Command System
IMS	Incident Management System
IMT	Incident Management Team
IPIECA	International Petroleum Industry Environment Conservation Association
ITOPF	International Tanker Owners Pollution Federation
IUCN	International Union for Conservation of Nature
KBSF	King Bay Supply Facility
KSAT	Kongsberg Satellite

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Abbreviation	Meaning
LOWC	Loss of Well Containment
MODU	Mobile Offshore Drilling Unit
MoU	Memorandum of Understanding
NEBA	Net Environmental Benefit Analysis
NOAA	National Oceanic and Atmospheric Administration
NRT	National Response Team
OILMAP	Oil Spill Model and Response System
OMP	Operational Monitoring Plan
OPEP	Oil Pollution Emergency Plan
OPGGSA	Offshore Petroleum and Greenhouse Gas Storage Act
OSM	Operational and Scientific Monitoring
OSRL	Oil Spill Response Limited
OSTM	Oil Spill Trajectory Modelling
OWR	Oiled Wildlife Response
OWRP	Oiled Wildlife Response Plan
PAP	Petroleum Activities Program
PEARL	People, Environment, Asset, Reputation, and Livelihood
PBA	Pre-emptive Baseline Areas
PPA	Priority Protection Area
PPB	Parts per billion
PPM	Parts per million
ROV	Remotely Operated Vehicle(s)
RPA	Response Protection Area
SCAT	Shoreline Contamination Assessment Techniques
S&EM	Security and Emergency Management
SIMA	Spill Impact Mitigation Assessment
SIMAP	Integrated Oil Spill Impact Model System
SSDI	Subsea Dispersant Injection
SFRT	Subsea First Response Toolkit
SMP	Scientific Monitoring Plan
SOP	Standard Operating Procedure
TRP	Tactical Response Plan
UAS	Unmanned Aerial Systems
UAV	Unmanned Aerial Vehicles
VOC	Volatile Organic Compound
WH	World Heritage
Woodside	Woodside Energy Limited
WCC	Woodside Communication Centre
WWCI	Wild Well Control Inc

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Abbreviation	Meaning
WCCS	Worst Case Credible Scenario
ZoA	Zone of Application

11 REFERENCES

- Allen, A. and D. Dale. 1996. Computerized Mission Planners: Useful tools for the planning and implementation of oil spill response operations. Proceedings, "Prevention is the Key: A Symposium on Oil Spill Prevention and Readiness," Valdez, AK, Oct. 8–11, 1996, 24 pp.
- ANZECC / ARMCANZ 2018. Australian & New Zealand Guidelines for Fresh & Marine Water Quality Management Framework. <https://www.waterquality.gov.au/anz-guidelines>
- APPEA (2021) Joint Industry Operational and Scientific Monitoring Plan Framework. Rev D. Report prepared by BlueSands Environmental for APPEA Marine and Environmental Science Working Group.
- Australian Maritime Safety Authority. The National Plan Oil Spill Control Agents List. Available from: <https://www.amsa.gov.au/marine-environment/pollution-response/register-oil-spill-control-agents> [Accessed 24 March 2024]
- Australian Maritime Safety Authority (AMSA). 2015a. Automated Identification System Point Density Data. Australian Government, Canberra, Australian Capital Territory. Available at: <https://www.operations.amsa.gov.au/Spatial/DataServices/MapProduct> [accessed 24 March 2024]
- Australasian Fire and Emergency Service Authorities Council, 2011, Fundamentals of Doctrine: A best practice guide, East Melbourne, VIC, AFAC Limited.
- Brandvik, PJ, Johansen, Ø, Farooq, O, Angell, G. and Leirvik, F. (2014). Subsurface oil releases – Experimental study of droplet distributions and different dispersant injection techniques. A scaled experimental approach using the SINTEF Tower basin. SINTEF report no. A26122. Norway.
- Brown M, 2012, Implementing an Operational Capability System within Fire & Rescue NSW, Australasian Fire and Emergency Service Authorities Council Conference Paper, September 2012.
- BSEE, 2016. <https://www.bsee.gov/site-page/worst-case-discharge-scenarios-for-oil-and-gas-offshore-facilities-and-oil-spill-response>. [Accessed 24 March 2024]
- BSEE, 2016. <https://www.bsee.gov/what-we-do/oil-spill-preparedness/response-system-planning-calculators>. [Accessed 24 March 2024]
- Daling PS, Aamo OM, Lewis A & Strøm-Kristiansen T, 1997. SINTEF/IKU Oil-Weathering Model: Predicting Oils' Properties at Sea. SINTEF Applied Chemistry. 1997 International Oil Spill Conference.
- Department of Biodiversity, Conservation and Attractions, Department of Transport and Australian Marine Oil Spill Centre, 2022a. Western Australia Oiled Wildlife Response Plan for Maritime Environmental Emergencies. Available at: <https://www.dbca.wa.gov.au/media/1887/download>. [Accessed 24 March 2024]
- Department of Biodiversity, Conservation and Attractions, Department of Transport and Australian Marine Oil Spill Centre, 2022b. Western Australia Oiled Wildlife Response Manual. Available at: <https://www.dbca.wa.gov.au/media/1886/download>. [Accessed 24 March 2024]
- Edwards v National Coal Board, 1949. 1 All ER 743 CA
- European Maritime Safety Agency, 2012. Manual on the Applicability of Oil Spill Dispersants, Version 2, p.57.
- Fingas, M. 2001. The Basics of Oil Spill Cleanup. Second Edition. Lewis Publishers, CRC Press LLC, Boca Raton, Florida. 233 p.
- Fingas, M. 2011a. Physical Spill Countermeasures. *Oil Spill Science and Technology: Prevention, Response, and Cleanup*, edited by M. Fingas. Elsevier, Inc.
- Fingas, M. 2011b. Weather Effects on Oil Spill Countermeasures. *Oil Spill Science and Technology: Prevention, Response, and Cleanup*, edited by M. Fingas. Elsevier, Inc.
- French-McCay, D.P. 2003. Development and application of damage assessment 160inimized: Example assessment for the North Cape oil spill. Mar. Pollut. Bull. 47(9-12), 341-359.
- French-McCay, D.P. 2004. Oil spill impact 160inimized: development and validation. Environ. Toxicol. Chem. 23(10), 2441-2456.

- French, D., Reed, M., Jayko, K., Feng, S., Rines, H., Pavignano, S. 1996. The CERCLA Type A Natural Resource Damage Assessment Model for Coastal and Marine Environments (NRDAM/CME), Technical Documentation, Vol. I – Model Description, Final Report. Office of Environmental Policy and Compliance, U.S. Department of the Interior. Washington, D.C.: Contract No. 14-0001-91-C-11
- French, D.P., H. Rines and P. Masciangioli. 1997. Validation of an Orimulsion spill fates model using observations from field test spills. In: Proceedings of the 20th AMOP Technical Seminar, Environment and Climate Change Canada, Ottawa, ON, Canada, 20, 933-961.
- French, D.P. and H. Rines. 1997. Validation and use of spill impact 161inimized for impact assessment. International Oil Spill Conference Proceedings, Vol. 1997, No. 1, pp. 829-834. <https://doi.org/10.7901/2169-3358-1997-1-829>. [Accessed 24 March 2024]
- French-McCay, D.P. and J.J. Rowe. 2004. Evaluation of bird impacts in historical oil spill cases using the SIMAP oil spill model. In Proceedings of the 27th AMOP Technical Seminar, Environment and Climate Change Canada, Ottawa, ON, Canada, 27, 421-452.
- French-McCay, D.P., C. Mueller, K. Jayko, B. Longval, M. Schroeder, J.R. Payne, E. Terrill, M. Carter, M. Otero, S. Y. Kim, W. Nordhausen, M. Lampinen, and C. Ohlmann, 2007. Evaluation of Field-Collected Data Measuring Fluorescein Dye Movements and Dispersion for Dispersed Oil Transport Modeling. In: Proceedings of the 30th Arctic and Marine Oil Spill Program (AMOP) Technical Seminar, Emergencies Science Division, Environment Canada, Ottawa, ON, Canada, pp.713-754.
- French McCay, D.P., K. Jayko, Z. Li, M. Horn, Y. Kim, T. Isaji, D. Crowley, M. Spaulding, L. Decker, C. Turner, S. Zamorski, J. Fontenault, R. Shmookler, and J.J. Rowe. 2015. Technical Reports for Deepwater Horizon Water Column Injury Assessment – WC_TR14: Modeling Oil Fate and Exposure Concentrations in the Deepwater Plume and Cone of Rising Oil Resulting from the Deepwater Horizon Oil Spill. DWH NRDA Water Column Technical Working Group Report. Prepared for National Oceanic and Atmospheric Administration by RPS ASA, South Kingstown, RI, USA. September 29, 2015. Administrative Record no. DWH-AR0285776
- French-McCay, D.P., Z. Li, M. Horn, D. Crowley, M. Spaulding, D. Mendelsohn, and C. Turner. 2016. Modeling oil fate and subsurface exposure concentrations from the Deepwater Horizon oil spill. In: Proceedings of the 39th AMOP Technical Seminar, Environment and Climate Change Canada, Ottawa, ON, Canada, 39, 115-150.
- IPIECA, 2015, Dispersants: surface application, IOGP Report 532, p.43.
- ITOPF, 2011. Fate of Marine Oil Spills, Technical Information Paper #2.
- ITOPF, 2014, Use of Dispersants to Treat Oil Spills, Technical Information Paper #4, p. 7.
- ITOPF, 2014, Aerial Observation of marine oil spills, Technical Information Paper #1, p. 5
- ITOPF, 2014, Use of skimmers in oil pollution response, Technical Information Paper #5, p. 9
- National Oceanic Atmospheric Administration (NOAA), US Coastguard, US Environmental Protection Agency (2006). Special Monitoring of Applied Response Technologies (SMART) monitoring protocol, Accessed 23 April 2025 - https://response.restoration.noaa.gov/sites/default/files/SMART_protocol.pdf.
- NOAA Characteristics of Response Strategies: A Guide for Spill Response Planning in Marine Environments, 2013, p.19 and p24.
- National Offshore Petroleum Safety and Environmental Management Authority. 2012. Environment Plan Assessment Policy, N-04700-PL0930, Perth, WA.
- National Offshore Petroleum Safety and Environmental Management Authority. 2012. Environment Plan Preparation Guidance Note, N-04700-GL0931, Perth, WA
- National Offshore Petroleum Safety and Environmental Management Authority. 2012. Control Measures and Performance Standards, Guidance Note N04300-N0271, Perth, WA.
- National Offshore Petroleum Safety and Environmental Management Authority. 2012. Oil Spill Contingency Planning, Guidance Note N-04700-GN0940, Perth, WA.
- National Offshore Petroleum Safety and Environmental Management Authority. 2022. ALARP, Guidance Note N-04300-GN0166, Perth, WA.

- National Offshore Petroleum Safety and Environmental Management Authority. 2021. Oil Pollution Risk Management, Guidance Note N-04750-GN1488, Perth, WA.
- National Offshore Petroleum Safety and Environmental Management Authority. 2016. Vessels Subject to the Australian Offshore Petroleum Safety Legislation, Guidance Note N-09000-GN1661, Perth WA
- A. P. Negri, H. M. Luter, R. Fisher, D. L. Brinkman, P. Irving, 2018. Comparative toxicity of five dispersants to coral larvae. *Scientific Reports* <https://www.nature.com/articles/s41598-018-20709-2> 8:3043 | DOI:10.1038/s41598-018-20709-2 [Accessed 10 March 2025].
- Payne, J.R., E. Terrill, M. Carter, M. Otero, W. Middleton, A. Chen, D. French-McCay, C. Mueller, K. Jayko, W. Nordhausen, R. Lewis, M. Lampinen, T. Evans, C. Ohlmann, G.L. Via, H. Ruiz-Santana, M. Maly, B. Willoughby, C. Varela, P. Lynch and P. Sanchez, 2007a. Evaluation of Field-Collected Drifter and Subsurface Fluorescein Dye Concentration Data and Comparisons to High Frequency Radar Surface Current Mapping Data for Dispersed Oil Transport Modeling. In: Proceedings of the Thirtieth Arctic and Marine Oil Spill Program (AMOP) Technical Seminar, Emergencies Science Division, Environment Canada, Ottawa, ON, pp. 681-711.
- Payne, J.R., D. French-McCay, C. Mueller, K. Jayko, B. Longval, M. Schroeder, E. Terrill, M. Carter, M. Otero, S.Y. Kim, W. Middleton, A. Chen, W. Nordhausen, R. Lewis, M. Lampinen, T. Evans, and C. Ohlmann, 2007b. Evaluation of Field-Collected Drifter and In Situ Fluorescence Data Measuring Subsurface Dye Plume Advection/Dispersion and Comparisons to High Frequency Radar-Observation System Data for Dispersed Oil Transport Modeling, Draft Final Report 06-084, Coastal Response Research Center, NOAA/University of New Hampshire, Durham, NH, 98 p. plus 8 appendices https://cordc.ucsd.edu/projects/ospr/20070509/PECI_Rpt_20070509_final.pdf. [Accessed 24 March 2024]
- Quigg, A., Farrington, J., Gilbert, S., Murawski, S., and John, V. (2021). A Decade of GoMRI Dispersant Science: Lessons Learned and Recommendations for the Future. *Oceanography*, Vol.34, No.1
- Reed M, Singaas I, Daling PS, Faksnes L, Brakstad OG, Hetland B & Hokstad J., 2001. Modeling the Water-Accommodated Fraction in OSCAR2000; Proceedings of 2001 International Oil Spill Conference, Tampa, Florida. SINTEF Applied Chemistry.
- Reed M, Hetland B, Cox W & Gereia M, 2004. A Nowcast-Forecast System for Oil Spill Response Support in Prince William Sound, Alaska. SINTEF and OSRI.
- Spaulding, M.S., D. Mendelsohn, D. Crowley, Z. Li, and A. Bird, 2015. Draft Technical Reports for Deepwater Horizon Water Column Injury Assessment: WC_TR.13: Application of OILMAP DEEP to the Deepwater Horizon Blowout. DWH NRDA Water Column Technical Working Group Report. Prepared for National Oceanic and Atmospheric Administration by RPS ASA, South Kingstown, RI 02879. Administrative Record no. DWH-AR0285366
- Spence, A, McTaggart, A (2018) Defining response capability: effectiveness, limitations and determining ALARP. Interspill Conference, London 2018.
- Wadsworth, T, 1995, Containment & Recovery of Oil Spills at Sea. Methods and limitations, ITOPF, London, United Kingdom.

ANNEX A: NET ENVIRONMENTAL BENEFIT ANALYSIS DETAILED OUTCOMES

A NEBA has been conducted to assess the net environmental benefit of different response techniques to selected receptors in the event of an oil spill from the PAP for CS-01, CS-02 and CS-03. The complete list of potential receptor locations within the EMBA within the PAP is included in Section 4 of the EP.

The locations utilised for the NEBA were limited to the identified RPAs of the PAP identified from modelling (see Section 3 for outline of selection). These include receptors which have potential for the following:

- Surface contact (>50 g/m²)
- Shoreline accumulation (>100 g/m²) at any time

The summary of the NEBA assessment outcomes is shown below. The full assessments are included in the Pyrenees Facility Operations pre-operational NEBAs.

Table A-1: NEBA assessment technique recommendations for loss of well containment (CS-01) and cargo tank loss of containment (CS-02) of Pyrenees Crude

Receptor	Monitor and evaluate	Source Control	Dispersant application: sub-sea	Containment and recovery	Dispersant application: > 20 m water depth and > 10 km from shore/reefs	In situ burning	Mechanical dispersion	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	Oiled wildlife response
Barrow/ Middle/ Boodie Islands/ reserves/ reefs	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Cape Range	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Carnarvon	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Christmas Island/ Cocos Keeling	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Dampier Archipelago Islands/ reserves/ reefs	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Exmouth Gulf/ Islands/ reserves/ reefs	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Exmouth, Ningaloo Coast WH and State MP	Yes	Yes	Potentially	Potentially	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Indonesia	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Kimberley Islands/ reserves/ reefs/ IPAs	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Kimberley Shoreline	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Lalang-garram Marine Park (North, Camden Sound and Horizontal Falls)	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Lowendal, Hermite, Montebello Islands/ reserves/ reefs	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Middle Pilbara Islands/ reserves/ reefs	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Ningaloo/ Muiron Islands/ reserves/ reefs	Yes	Yes	Potentially	Potentially	Potentially	No	No	Yes	Yes	Potentially	No	Yes
North Pilbara Islands/ reserves/ reefs	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Northern Pilbara – Shoreline	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Shark Bay (Australian Marine Park & World Heritage Area)	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
South Pilbara Islands/ reserves/ reefs	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes
Southern Pilbara – Shoreline	Yes	Yes	Potentially	No	No	No	No	Yes	Yes	Potentially	No	Yes

Overall assessment

Sensitive receptor (sites identified in EP)	Monitor and evaluate	Source Control	Dispersant application: sub-sea	Containment and recovery	Dispersant application: > 20 m water depth and > 10 km from shore/reefs	In situ burning	Mechanical dispersion	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	Oiled wildlife response
Is this response Practicable?	Yes	Yes	Potentially	Yes	Potentially	No	No	Yes	Yes	Yes	No	Yes
NEBA identifies response potentially of net environmental benefit?	Yes	Yes	Potentially	Yes	Potentially	No	No	Yes	Yes	Yes	No	Yes

Table A-2: NEBA assessment technique recommendations for cargo tank loss of containment (CS-02) of Pyrenees Crude

Receptor	Monitor and evaluate	Source Control	Dispersant application: sub-sea	Containment and recovery	Dispersant application: > 20 m water depth and > 10 km from shore/reefs	In situ burning	Mechanical dispersion	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	Oiled wildlife response
Barrow/Middle/Boodie Islands/reserves/reefs	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Cape Range	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Carnarvon	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Dampier Archipelago Islands/reserves/reefs	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
East Pilbara - shoreline	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
East Pilbara Islands/reserves/reefs	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Exmouth Gulf/Islands/reserves/reefs	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Exmouth, Ningaloo Coast WH and State MP	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Kimberley Islands/Reserves/Reefs/IPAs	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Lowendal, Hermite, Montebello Islands/reserves/reefs	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Middle Pilbara Islands/reserves/reefs	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Ningaloo/Muiron Islands/reserves/reefs	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
North Pilbara Islands/reserves/reefs	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Northern Pilbara – Shoreline	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
South Pilbara Islands/reserves/reefs	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
Southern Pilbara – Shoreline	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes

Overall assessment

Sensitive receptor (sites identified in EP)	Monitor and evaluate	Source Control	Dispersant application: sub-sea	Containment and recovery	Dispersant application: > 20 m water depth and > 10 km from shore/reefs	In situ burning	Mechanical dispersion	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	Oiled wildlife response
Is this response Practicable?	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes
NEBA identifies response potentially of net environmental benefit?	Yes	Yes	N/A	Yes	Potentially	No	No	Yes	Yes	Potentially	No	Yes

Table A-3: NEBA assessment technique recommendations for loss of MDO due to vessel collision (CS-03)

Receptor	Monitor and evaluate	Source Control	Dispersant application: sub-sea	Containment and recovery	Dispersant application: > 20 m water depth and > 10 km from shore/reefs	In situ burning	Mechanical dispersion	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	Oiled wildlife response
Barrow/Middle/Boodie Islands/reserves/reefs	Yes	Yes	N/A	No	No	No	No	Yes	Yes	Potentially	No	Yes
Exmouth, Ningaloo Coast WH and State MP	Yes	Yes	N/A	No	No	No	No	Yes	Yes	Potentially	No	Yes
Gascoyne Marine Park	Yes	Yes	N/A	No	No	No	No	No	No	No	No	Yes
Ningaloo/Muiron Islands/reserves/reefs	Yes	Yes	N/A	No	No	No	No	Yes	Yes	Potentially	No	Yes
Onslow Region	Yes	Yes	N/A	No	No	No	No	No	No	No	No	Yes

Overall assessment

Sensitive receptor (sites identified in EP)	Monitor and evaluate	Source Control	Dispersant application: sub-sea	Containment and recovery	Dispersant application: > 20 m water depth and > 10 km from shore/reefs	In situ burning	Mechanical dispersion	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	Oiled wildlife response
Is this response Practicable?	Yes	Yes	N/A	No	No	No	No	Yes	Yes	Potentially	No	Yes
NEBA identifies response potentially of net environmental benefit?	Yes	Yes	N/A	No	No	No	No	Yes	Yes	Potentially	No	Yes

NEBA Impact Ranking Classification Guidance

To reduce variability between assessments, the following ranking descriptions have been devised to guide the workshop process:

			Degree of impact ¹⁰	Potential duration of impact	Equivalent Woodside Corporate Risk Matrix Consequence Level
Positive	3P	Major	Likely to prevent: - behavioural impact to biological receptors - behavioural impact to socio-economic receptors e.g. changes to day-to-day business operations, public opinion/behaviours (e.g. avoidance of amenities such as beaches) or regulatory designations.	Decrease in duration of impact by > 5 years	N/A
	2P	Moderate	Likely to prevent: - significant impact to a single phase of reproductive cycle of biological receptors - detectable financial impact, either directly (e.g. loss of income) or indirectly (e.g. via public perception), for socio-economic receptors.	Decrease in duration of impact by 1–5 years	N/A
	1P	Minor	Likely to prevent impacts on: - significant proportion of population or breeding stages of biological receptors - socio-economic receptors such as: - significant impact to the sensitivity of protective designation; or - significant and long-term impact to business/industry.	Decrease in duration of impact by several seasons (< 1 year)	N/A
	0	Non-mitigated spill impact	No detectable difference to unmitigated spill scenario.		
Negative	1N	Minor	Likely to result in: - behavioural impact to biological receptors - behavioural impact to socio-economic receptors e.g. changes to day-to-day business operations, public opinion/behaviours (e.g. avoidance of amenities such as beaches), or regulatory designations.	Increase in duration of impact by several seasons (< 1 year)	Increase in risk by one sub-category, without changing category (e.g. Minor (E) to Minor (D))
	2N	Moderate	Likely to result in: - significant impact to a single phase of reproductive cycle for biological receptors; or - detectable financial impact, either directly (e.g. loss of income) or indirectly (e.g. via public perception), for socio-economic receptors. This level of negative impact is recoverable and unlikely to result in closure of business/industry in the region.	Increase in duration of impact by 1–5 years	Increase in risk by one category (e.g. Minor (D) to Moderate (C or B))
	3N	Major	Likely to result in impacts on: - significant proportion of population or breeding stages of biological receptors - socio-economic receptors resulting in either: - significant impact to the sensitivity of protective designation; or - significant and long-term impact to business/industry.	Increase in duration of impact by > 5 years or unrecoverable	Increase in risk by two categories (e.g. Minor (E) to Major (A))

¹⁰ NOTE: the maximum likely impact should be considered; for example, if a spill were to directly impact the behaviour that results in an impact to reproduction and/or the breeding population (such as fish failing to aggregate to spawn), then the score should be a 2 or 3 rather than a 1. Similarly, if a change in behaviour resulted in an increased risk of mortality of a population, then it should be scored as a 2 or 3

ANNEX B: MONITOR AND EVALUATE ACTIVATION AND TERMINATION CRITERIA

Table B-1: Monitor and evaluate objectives, triggers and termination criteria

Operational Monitoring Operational Plan	Objectives	Activation triggers	Termination criteria
Operational Monitoring Operational Plan – Predictive Modelling of Hydrocarbons to Assess Resources at Risk	Predictive modelling focuses on the conditions that have prevailed since a spill commenced, as well as those that are forecasted in the short term (1–3 days ahead) and longer term. Predictive modelling utilises computer-based forecasting methods to predict hydrocarbon spill movement and guide the management and execution of spill response operations to maximise the protection of environmental resources at risk. The objectives of predictive modelling are to: • Provide forecasting of the movement and weathering of spilled hydrocarbons • Identify resources that are potentially at risk of contamination • Provide simulations showing the outcome of alternative response options (booming patterns etc.) to inform on-going Net Environmental Benefit Analysis (NEBA) and continually assess the efficacy of available response options to reduce risks to ALARP	Predictive modelling will be triggered immediately following a level 2/3 hydrocarbon spill.	The criteria for the termination of predictive modelling are: • The hydrocarbon discharge has ceased and no further surface oil is visible • Response activities have ceased • Hydrocarbon spill modelling (as verified by OM02 surveillance observations) predicts no additional natural resources will be impacted

Operational Monitoring Operational Plan	Objectives	Activation triggers	Termination criteria
Operational Monitoring Operational Plan – Surveillance and reconnaissance to detect hydrocarbons and resources at risk	Surveillance and reconnaissance aims to provide regular, on-going hydrocarbon spill surveillance throughout a broad region, in the event of a spill. The objectives of surveillance and reconnaissance are: • Verify spill modelling results and recalibrate spill trajectory models . • Understand the behaviour, weathering and fate of surface hydrocarbons. • Identify environmental receptors and locations at risk or contaminated by hydrocarbons. • Inform ongoing Net Environmental Benefit Analysis (NEBA) and continually assess the efficacy of available response options to reduce risks to ALARP. • To aid in the subsequent assessment of the short- to long-term impacts and/or recovery of natural resources (assessed in SMPs) by ensuring that the visible cause and effect relationships between the hydrocarbon spill and its impacts to natural resources have been observed and recorded during the operational phase.	Surveillance and reconnaissance will be triggered immediately following a level 2/3 hydrocarbon spill.	The termination triggers for surveillance and reconnaissance are: • 72 hours has elapsed since the last confirmed observation of surface hydrocarbons. • Latest hydrocarbon spill modelling results do not predict surface exposures at visible levels.

Operational Monitoring Operational Plan	Objectives	Activation triggers	Termination criteria
Operational Monitoring Operational Plan – Pre-emptive assessment of sensitive receptors at risk	Pre-emptive shoreline assessment aims to undertake a rapid assessment of the presence, extent and current status of shoreline sensitive receptors prior to contact from the hydrocarbon spill, by providing categorical or semi-quantitative information on the characteristics of resources at risk. The primary objective of pre-emptive shoreline assessment is to confirm understanding of the status and characteristics of environmental resources predicted by OM01 and OM02 to be at risk, to further assist in making decisions on the selection of appropriate response actions and prioritisation of resources. Indirectly, qualitative/semi-quantitative pre-contact information collected by pre-emptive shoreline assessment on the status of environmental resources may also aid in the verification of environmental baseline data and provide context for the assessment of environmental impacts, as determined through subsequent SMPs. Pre-emptive shoreline assessment would be undertaken in liaison with WA DTMI as the control agency once the oil is in State Waters (if a Level 2/3 incident).	Triggers for commencing pre-emptive shoreline assessment include: • Contact of a sensitive habitat or shoreline is predicted by predictive modelling and surveillance. • The pre-emptive assessment methods can be implemented before contact from hydrocarbons (once a receptor has been contacted by hydrocarbons it will be assessed under monitoring of contaminated resources).	The criteria for the termination of Pre-emptive assessment at any given location are: • Locations predicted to be contacted by hydrocarbons have been contacted. • The location has not been contacted by hydrocarbons and is no longer predicted to be contacted by hydrocarbons (resources should be reallocated as appropriate).

ANNEX C: PYRENEES FACILITY OPERATIONS OSM ACTIVITY SPECIFIC ASSESSMENT

The Woodside OSM-BIP comprehensively presents important information for OSM assessment and implementation, including the process for assessing OSM requirements for each activity. This Annex provides the activity-specific information required for the Pyrenees Facility Operations (hereafter referred to as the PAP) OSM Assessment, including:

- OSM Planning Area;
- Monitoring priorities;
- Mobilisation and implementation timeframes; and
- Resourcing requirements and capability assessment.

C.1 Determine if the activity OSM Planning Area fits within the Combined OSM Planning Area

The OSM Planning Area for the PAP credible spill scenarios (as shown in Figure C - 1) fits within the Combined OSM Planning Area (Figure 2-1 in the OSM-BIP).

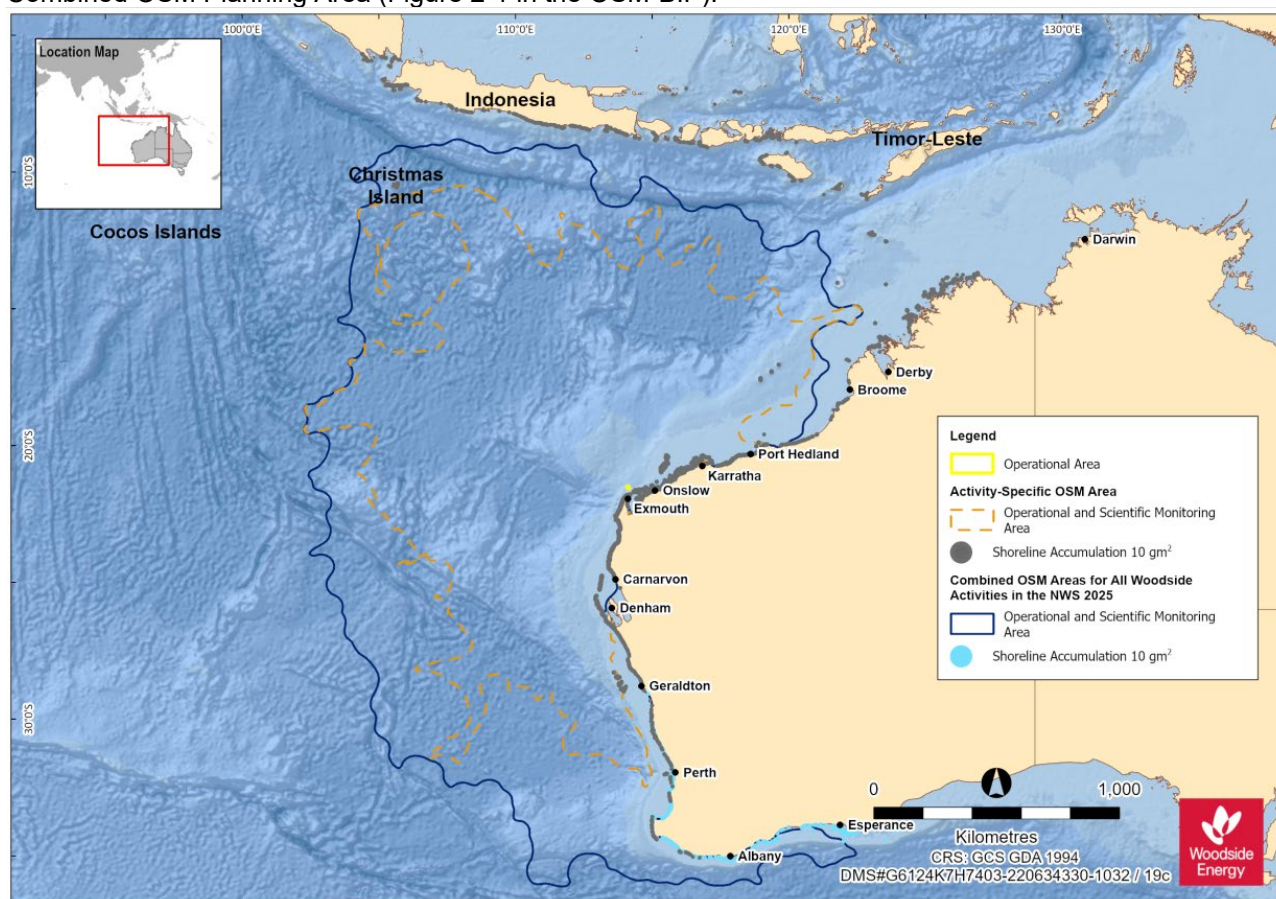


Figure C - 1: PAP OSM Planning Area based on the area potentially contacted by the low (below ecological impact) hydrocarbon thresholds in the event of the worst-case credible spill scenarios (CS-01, CS-02 and CS-03).

C.2 Determine activity-specific monitoring priorities

Assess spill exposure risk using trajectory modelling

Woodside has reviewed the stochastic oil spill modelling results for the worst-case credible spill scenarios listed in

Table 2-1 and as outlined in Section 2.2 of the OSM-BIP, and identified receptors contacted at a high probability of rapid contact. Table C-1 presents the receptors contacted within 14 days at a probability >10% at the low threshold for dissolved (≥ 10 ppb), entrained (≥ 10 ppb), floating (≥ 1 g/m²), and shoreline contact (≥ 10 g/m²) for PAP scenarios.

Evaluate availability of adequate baseline data

The availability of baseline data may influence monitoring priorities. Section 4 of the OSM-BIP outlines Woodside's baseline review and evaluation process. Using the Marine Environment Baseline Database, Woodside has reviewed baseline data for all of the receptors predicted of being rapidly contacted at a higher probability from the PAP activities (Table C-2) to help determine which receptors and key features have insufficient or no baseline data available and should be given a higher monitoring priority.

It is anticipated that some receptors and locations may be impacted before monitoring teams can begin the assessments. Given this constraint, and the limited baseline data at many priority monitoring locations and receptors, scientific monitoring will likely need to use a combination of approaches including gradient analysis, impact versus control comparisons, and lines of evidence methodologies. During a spill, it may be necessary to identify additional unaffected control sites for comparative monitoring where possible. As such, control sites have been factored into capability planning in Section C.4.

Consideration of Key Ecological Features, Biologically Important Areas and transient receptors

A number of broadscale ecological features are located within the OSM Planning Area and have been considered in monitoring prioritisation and OSM capability planning for PAP activities. The following Key Ecological Features (KEFs) (and their distances to the Operational Area) are noted in Table 4-14 of the EP:

- Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula (overlaps Operational Area)
- Continental Slope Demersal Fish Communities (overlaps Operational Area)
- Ancient Coastline at 125 m Depth Contour (2.5 km south-east of Operational Area)
- Commonwealth Waters Adjacent to Ningaloo Reef (9.3 km south of Operational Area)
- Exmouth Plateau (81.7 km north-west of Operational Area)
- Glomar Shoals (321.1 km north-west of Operational Area)
- Western demersal slope and associated fish communities (476.2 km south-west of Operational Area)
- Wallaby Saddle (500.1 km south-west of Operational Area)
- Mermaid Reef and Commonwealth waters surrounding Rowley Shoals (641.1 km north-east of Operational Area)
- Western Rock Lobster (679.3 km south of Operational Area)
- Ancient Coastline at 90-120 m depth (680.5 km south of Operational Area)
- Perth Canyon and adjacent shelf break, and other west coast canyons (707.4 km south of Operational Area)
- Commonwealth marine environment within and adjacent to the west coast inshore lagoons (719 km south of Operational Area)
- Commonwealth marine environment surrounding the Houtman Abrolhos Islands (721.2 km south of Operational Area)
- Canyons linking the Argo Abyssal Plain with the Scott Plateau (954.4 km north-east of Operational Area)
- Seringapatam Reef and Commonwealth waters in the Scott Reef Complex (1,135.2 km north-east of Operational Area)
- Ashmore Reef and Cartier Island and surrounding Commonwealth waters (1,383.9 km north-east of Operational Area).

The Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEF and Continental Slope Demersal Fish Communities KEF overlap the PAP Operational Area, so are at higher risk of contact with hydrocarbons. All KEFs within the OSM Planning Area are described in detail in Section 4.7 and Appendix C of the EP. These KEFs include subsea receptors (benthic and pelagic habitats; demersal fish communities; marine fauna aggregations) that may be at risk from subsea releases, such as the loss of containment scenario associated with the PAP (refer to

Table 2-1). Therefore, OSM planning and resourcing for this activity includes relevant monitoring requirements, such as water quality, sediment quality, benthic habitats and fish for these features (refer to Table C-3 and Table C-9).

The OSM Area also overlaps a number of Biologically Important Areas (BIAs) with protected species potentially occurring in the area, as described in Section 4.6 of the EP and listed in Table C-3. A number of the BIAs and protected species are located within the geographical extents of other receptors, such as marine turtles within Montebello AMP, so these BIAs and protected species would automatically be included in the relevant SMPs for that receptor (refer to Table C-6). Where BIAs, protected species and KEFs are situated away from the monitoring priorities, they will be captured in the Offshore Environs monitoring unit described in Table C-6.

Initial Monitoring Priorities

Monitoring prioritisation during the initial stages of a spill should focus on sensitive receptors with the highest risk of adverse consequences and where oil spill modelling predicts high probability of rapid contact. During the initial monitoring response, emphasis will be placed on receptors contacted by floating, shoreline, and dissolved hydrocarbon phases. If a receptor is only contacted by low concentrations of entrained hydrocarbons and not by any other hydrocarbon phase, it will be considered a lower priority during the initial monitoring response.

To further guide monitoring prioritisation in the event of a spill, Woodside has also compared the availability of baseline data against the WA State-based protection prioritisation evaluation rankings. The WA DTMI protection priority rankings were established through the Western Australian Marine Oil Pollution Risk Assessment process. These rankings evaluate each receptor's vulnerability to marine oil spills, considering impacts from both floating and dissolved oil, as shown in Table C-4. This information is then used to determine the resultant initial monitoring priorities for the activity.

Table C-1 – PAP credible spill scenarios stochastic modelling results for locations with a probability of contact $\geq 10\%$ and < 14 days

Receptor	Total contact probability (%) floating oil ≥ 1 g/m ²	Min. arrival time floating oil ≥ 1 g/m ² (days)	Total contact probability (%) shoreline accumulation ≥ 10 g/m ²	Min. arrival time shoreline accumulation ≥ 10 g/m ² (days)	Probability (%) entrained oil at ≥ 10 ppb	Min. arrival time entrained oil ≥ 10 ppb (days)	Probability (%) dissolved oil at > 10 ppb	Min. arrival time dissolved oil ≥ 10 ppb (days)
CS-01: 69 day surface release of 29,618 m³ – Pyrenees Crude (RPS, 2025)								
Carnarvon Canyon MP*	7	14.7	NA	NA	15	11.3	4	14.3
Gascoyne AMP*	98	0.7	NA	NA	75	0.4	100	0.8
Montebello AMP*	14	5.0	NA	NA	3	3.4	1	17.8
Ningaloo AMP*	90	1.0	NA	NA	75	0.5	100	0.8
Shark Bay MP*	2	15.5	NA	NA	25	10.8	9	18.2
Carnarvon	4	14.0	27	6.2	4	42.4	NC	NC
Exmouth	26	2.8	57	2.6	35	4.1	34	7.5
Airlie Island	1	18.5	13	10.5	< 1	NA	< 1	NA
Barrow Island	7	5.5	21	5.0	2	5.9	NC	NC
Bessieres Island	3	16.2	15	8.6	< 1	63.6	2	42.9
Boodie Island	3	23.9	19	5.6	NC	NC	NC	NC
Flat Island	5	15.6	28	7.4	2	7.7	2	42.1
Fly Island	2	15.3	10	10.3	< 1	NA	< 1	NA
Hermite Island	4	7.7	23	4.3	NC	NC	NC	NC
Lowendal Islands	4	7.2	18	4.2	NC	NC	NC	NC
Middle Island	2	35.5	19	5.6	NC	NC	NC	NC
Montebello Islands	5	7.7	23	4.3	1	20.8	NC	NC
Muiron Islands	12	5.3	49	5.1	28	5.4	28	13.0
Observation Island	4	15.5	20	11.6	1	30.6	2	54.4
Peak Island	4	18.5	32	6.3	11	8.0	3	50.2
Rivoli Islands	2	13.6	10	11.3	< 1	NA	< 1	NA
Round Island	2	20.8	12	7.7	< 1	61.0	1	43.3
Serrurier Island	5	15.9	18	7.6	< 1	60.8	2	27.8
Southern Pilbara – Islands	5	13.6	32	6.3	11	7.6	4	25.6
Sunday Island	9	10.7	31	5.4	17	6.9	10	32.4
Table Island	2	52.4	10	11.8	< 1	63.0	1	59.4
Thevenard Island	3	17.3	12	10.1	< 1	69.7	< 1	NA
Tortoise Island	1	53.2	10	10.5	< 1	68.1	< 1	NA
Montebello Islands MP	5	7.5	23	4.3	1	7.7	NC	NC
Muiron Islands MMA	25	5.0	49	5.1	33	5.3	41	11.8
Ningaloo Coast WH	90	1.0	57	2.6	75	0.5	100	0.8
Ningaloo MP (State)	49	2.3	57	2.6	69	1.7	81	3.5
Cape Range	18	3.6	54	2.8	28	4.8	23	14.4
Boodie, Double Middle Islands Nature Reserve	3	23.9	19	5.6	NC	NC	NC	NC
Thevenard Island NR	3	17.8	12	10.1	< 1	69.9	< 1	NA
Ningaloo Reef*	27	2.8	NA	NA	44	3.1	38	6.1
North West Reef*	9	4.5	NA	NA	17	6.0	21	19.3
Outtrim Patches*	13	10	NA	NA	14	11.0	7	22.4
CS-02: Instantaneous cargo tank loss of containment – Pyrenees Crude (RPS, 2025)								
Gascoyne AMP*	42.5	0.3	NA	NA	62	0.3	63	0.33

Receptor	Total contact probability (%) floating oil ≥1 g/m²	Min. arrival time floating oil ≥1 g/m² (days)	Total contact probability (%) shoreline accumulation ≥10 g/m²	Min. arrival time shoreline accumulation ≥10 g/m² (days)	Probability (%) entrained oil at ≥10 ppb	Min. arrival time entrained oil ≥10 ppb (days)	Probability (%) dissolved oil at >10 ppb	Min. arrival time dissolved oil ≥10 ppb (days)
Ningaloo AMP*	27.5	0.2	NA	NA	51	0.2	55	0.21
Shark Bay AMP*	3	7.5	NA	NA	16	7.8	11	7.83
Exmouth	7	1.5	14.5	0.6	14	1.5	15	1.63
Muiron Islands	2	1.5	10	0.4	7	2.9	6	3.00
Muiron Islands MMA	3	0.9	10	0.4	7	0.9	7	1.88
Ningaloo Coast WH	27.5	0.2	14.5	0.6	51	0.2	55	0.21
Ningaloo MP (State)	9	0.9	14.5	0.6	20	0.9	28	1.17
Ningaloo Reef*	7.5	1.4	NA	NA	15	1.5	18.5	1.50
CS-03: Instantaneous loss of containment arising from vessel collision – MDO (GHD, 2022)								
Ningaloo Region (GHD sector that encompasses most of the Ningaloo Coast WH area)	4.5	0.5	10.3	0.7	7.5	0.4	5	0.5
Ningaloo AMP*	13.5	0.2	NA	NA	26	0.2	19	0.2
Gascoyne AMP*	46.5	0.2	NA	NA	59	0.2	48	0.2

Key

Receptor contacted within 7 days

Receptor contacted within 7–14 days

Receptor only contacted by entrained hydrocarbons at a probability >10% and a concentration ≥10 ppb

*Submerged receptor that has no features above the sea surface. Modelling indicates ‘contact’ with these receptors when the hydrocarbons pass over the receptor on the sea surface.

** Minimum arrival time data for dissolved hydrocarbon unavailable. As a conservative approach, sensitive receptors that meet the low thresholds in dissolved hydrocarbon contact probability have been recorded as locations requiring a baseline data review regardless of whether or not they meet the low thresholds in minimum arrival time.

NA = not applicable; NC = no contact

Table C-2 – Baseline data assessment versus SMPs for receptors predicted at being contacted >10% probability and <14 days

Receptor	SM1: Water quality impact	SM2: Sediment quality impact	SM3: Intertidal and coastal habitat	SM4: Seabirds and shorebirds	SM5: Marine megafauna – reptiles ¹¹	SM5: Marine megafauna – whale sharks, dugong and cetacean	SM6: Benthic habitat	SM7: Marine fish and elasmobranch assemblages	SM8: Fisheries impact	SM9 & 10: Heritage and social impact
Ningaloo (including Ningaloo WHA, Ningaloo Coast North and most of the Carnarvon sector)					Turtles	Whale shark			(Locations to be determined in consultation with key stakeholders to reflect current fishing zones/effort)	(Locations to be determined in consultation with key stakeholders)
					Sea snakes					
Muiron Islands					Turtles					
					Sea snakes					
Exmouth Gulf										
Southern Pilbara Islands & Shoreline	Ashburton Port	Ashburton Port		Urala Station, Onslow, Airlie, Serrurier & Thevenard Isl.	Turtles: Onslow, Thevenard & Airlie Islands			Green sawfish		
				Turtles elsewhere						
				Sea snakes						
Middle Pilbara Islands & shoreline	Mardie	Mardie			Turtles			Green sawfish		
					Sea snakes					
Barrow Island	Barrow Isl Port	Barrow Isl Port			Flatback turtle					
		Green & hawksbill turtle								
		Sea snakes								
Lowendal Islands			Mangroves at Varanus Isl.	Seabirds	Turtles at Varanus Isl.					
				Shorebirds	Sea snakes					
Montebello Islands				Wedge-tailed shearwater at Ah Chong Is						
Carnarvon Canyon MP			N/A							
Gascoyne AMP			N/A							
Montebello AMP			N/A							
Ningaloo AMP			N/A							
Shark Bay AMP			N/A							
Reefs, shoals and banks			N/A							

Key	
	No baseline data available, or existing data are inadequate in quality, scope, or relevance. Caveat: Additional relevant data may exist but be unknown and therefore not included in the assessment.
	Comprehensive baseline data or ongoing monitoring collected within the last 5 years. Data align with Joint Industry SMP parameters and methods, cover required species/communities and span the necessary spatial extent.
	Historical data (>5 years old) that remain of value, or some current but not extensive baseline data. Caveat: Additional relevant data may exist but be unknown and therefore not included in the assessment.
NA	N/A: not applicable as the receptor is submerged

¹¹ For sea turtles, nesting-beach monitoring remains the primary basis for assessing population trends, whereas adult males and non-nesting life-stages (hatchlings at sea, juveniles/sub-adults on foraging grounds) are monitored far less systematically.

Table C-3: Receptors contacted within 14 days at a probability >10% versus relevant OMPs and SMPs

Receptor	OM1: Hydrocarbon Characterisation	OM2: Hydrocarbon in Water	OM3: Hydrocarbon in Sediment	OM6: Shoreline Clean-up Assessment	OM5: Rapid Marine Fauna Surveillance	SM1: Water quality impact assessment	SM2: Sediment quality impact assessment	SM3: Intertidal and coastal habitat assessment	SM4: Seabirds and shorebirds	SM5: Marine megafauna assessment- reptiles	SM5: Marine megafauna assessment- whale sharks, dugong and cetacean	SM6: Benthic habitat assessment	SM7: Marine fish and elasmobranch assemblages assessment	SM8: Fisheries impact assessment	SM9 & 10: Heritage and social impact assessment
AMPs															
Carnarvon Canyon MP*	✓	✓	✓	-	✓	✓	✓	-	▲	▲	▲	✓	✓	✓	✓
Gascoyne AMP*	✓	✓	✓	-	✓	✓	✓	-	▲	▲	▲	✓	✓	✓	✓
Montebello AMP*	✓	✓	✓	-	✓	✓	✓	-	▲	▲	▲	✓	✓	✓	✓
Ningaloo AMP*	✓	✓	✓	-	✓	✓	✓	-	▲	▲	▲	✓	✓	✓	✓
Shark Bay MP*	✓	✓	✓	-	✓	✓	✓	-	▲	▲	▲	✓	✓	✓	✓
Coastlines															
Exmouth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carnarvon	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Middle– Islands and Shoreline	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Southern Pilbara – Islands and Shoreline	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Islands															
Barrow Island (including Boodie and Middle Islands)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lowendal Islands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Montebello Islands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Muiron Islands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Southern Pilbara – Islands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Marine Parks (MP)															
Montebello Islands MP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Muiron Islands MMA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ningaloo Coast WH	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ningaloo MP (State)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
National Parks															
Cape Range	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Nature Reserves															
Boodie, Double Middle Islands Nature Reserve NR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Thevenard Island NR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reefs, Shoals and Banks															
	✓	✓	✓	-	✓	✓	✓	-	▲	▲	▲	✓	✓	✓	▲
KEFs within 100 km of Operational Area															
Canyons Linking the Cuvier Abyssal Plain and the Cape Range Peninsula	-	✓	✓	-	✓	✓	✓	-	▲	▲	▲	✓	✓	-	-
Continental Slope Demersal Fish Communities	-	✓	✓	-	✓	✓	✓	-	▲	▲	▲	✓	✓	-	-
Ancient Coastline at 125 m depth contour	-	✓	✓	-	✓	✓	✓	-	▲	▲	▲	✓	-	-	-
Commonwealth Waters Adjacent to Ningaloo Reef	-	✓	✓	-	✓	✓	✓	-	▲	▲	▲	✓	✓	-	-
Exmouth Plateau	-	✓	✓	-	✓	✓	✓	-	▲	▲	▲	✓	✓	-	-
BIAs within 100 km of Operational Area															
Whale shark BIA	-	✓	-	-	✓	✓	-	-	-	-	✓	-	-	-	✓
Pygmy blue whale BIA	-	✓	-	-	✓	✓	-	-	-	-	✓	-	-	-	-
Humpback whale BIA	-	✓	-	-	✓	✓	-	-	-	-	✓	-	-	-	-
Flatback turtle BIAs	-	✓	-	✓	✓	✓	✓	-	-	✓	-	✓	-	-	-
Dugong BIA	-	✓	-	-	✓	✓	-	-	-	-	✓	✓	-	-	-
Green turtle BIAs	-	✓	-	✓	✓	✓	✓	-	-	✓	-	✓	-	-	-
Hawksbill turtle BIAs	-	✓	-	✓	✓	✓	✓	-	-	✓	-	✓	-	-	-
Loggerhead turtle BIAs	-	✓	-	✓	✓	✓	✓	-	-	✓	-	✓	-	-	-
Fairy tern BIA	-	✓	-	✓	✓	✓	✓	-	✓	-	-	-	-	-	-
Lesser crested tern BIA	-	✓	-	✓	✓	✓	✓	-	✓	-	-	-	-	-	-

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Receptor	OM1: Hydrocarbon Characterisation	OM2: Hydrocarbon in Water	OM3: Hydrocarbon in Sediment	OM6: Shoreline Clean-up Assessment	OM5: Rapid Marine Fauna Surveillance	SM1: Water quality impact assessment	SM2: Sediment quality impact assessment	SM3: Intertidal and coastal habitat assessment	SM4: Seabirds and shorebirds	SM5: Marine megafauna assessment- reptiles	SM5: Marine megafauna assessment- whale sharks, dugong and cetacean	SM6: Benthic habitat assessment	SM7: Marine fish and elasmobranch assemblages assessment	SM8: Fisheries impact assessment	SM9 & 10: Heritage and social impact assessment
Roseate tern BIA	-	✓	-	✓	✓	✓	✓	-	✓	-	-	-	-	-	-
Wedge-tailed shearwater BIA	-	✓	-	✓	✓	✓	✓	-	✓	-	-	-	-	-	-

Key	
✓	It is highly likely that the initiation criteria would be met for the relevant OMP/SMP
^	It is possible that the initiation criteria may or may not be met for the relevant OMP/SMP
-	Not applicable

Table C-4: Initial monitoring priorities

Receptor	Key sensitivities / values	Relevant key periods	Baseline Priority	DTMI Ranking (Floating oil)	DTMI Ranking (Dissolved oil)	Initial Monitoring Priority
Middle Pilbara – Islands and Shoreline	Mangroves	N/A	Low	3	3	Low
	Turtles Flatback turtle (<i>Natator depressus</i>) (data deficient), green turtle (<i>Chelonia mydas</i>) (endangered), and hawksbill turtle (<i>Eretmochelys imbricata</i>) (critically endangered). Island habitats are particularly important for nesting.	Oct to Mar	Low	4	3	Medium
	Marine mammals Humpback whale (<i>Megaptera novaeangliae</i>) (least concern) migration area. Australian humpback dolphin (<i>Sousa sahulensis</i>) (vulnerable), Indo-Pacific bottlenose dolphin (<i>Tursiops aduncus</i>) (unknown) and dugong (<i>Dugong dugon</i>) (vulnerable) utilise the shallow intertidal waters around islands.	Humpback whale migration: Jun to Oct	High	3	2	Medium
	Birds Staging point/feeding area for migratory shore birds. Seabird nesting, resting and foraging on and around islands.	Migratory shorebirds: Aug to Apr	Low	3	2	Low
	Fish Green sawfish (<i>Pristis zijsron</i>) (critically endangered).	Unknown	Low	4	5	High
	Coral and other subsea benthic habitats	Coral spawning: Mar & Oct	High	3	4	High
	Socio-economic Recreational fishing/ charter boats, tourism related to water-based activities and nature. Camping beaches.	Year-round	High	4	4	High
Ningaloo Coastline and WHA (also includes most of the Carnarvon sector)	World Heritage Area	N/A	N/A	5	5	High
	Mangroves	N/A	High	3	3	Medium
	Turtles Loggerhead (<i>Caretta caretta</i>) (vulnerable) site, green turtle (<i>Chelonia mydas</i>) (endangered), hawksbill turtle (<i>Eretmochelys imbricata</i>) (critically endangered) nesting	Main nesting: Hawksbill July-Mar Green Sept-Mar Flatback Sept-Mar Loggerhead Sept-Mar	Low	4	3	Medium
	Marine mammals Pygmy blue whales (<i>Balaenoptera musculus brevicauda</i>) (endangered) foraging area. Humpback whale (<i>Megaptera novaeangliae</i>) (least concern) migration area. Australian humpback dolphin (<i>Sousa sahulensis</i>) (vulnerable), Indo-Pacific bottlenose dolphin (<i>Tursiops aduncus</i>) (unknown) and orca (<i>Orcinus orca</i>) (data deficient). Dugongs (<i>Dugong dugon</i>) (vulnerable) breeding and foraging.	Pygmy blue whale migration: Apr to Aug (north bound) and Oct to Dec (south bound) Humpback whale migration: Jun to Oct	High	3	2	Medium
	Sharks and rays Seasonal aggregations of whale sharks (<i>Rhincodon typus</i>) (endangered) and manta rays	Whale sharks – Mar to Jul	High, with the exception of whale shark	3	4	High
	Birds Internationally important shorebird area. Biologically important breeding habitat for seabirds: fairy tern (<i>Sternula nereis</i>) (vulnerable); wedge-tailed shearwater (<i>Ardenna pacifica</i>) (least concern); roseate tern (<i>Sterna dougallii</i>) (least concern)	Shorebirds: Aug to Apr Seabirds: species specific	High	5	4	High
	Coral and other subsea benthic primary producers	Coral spawning: Mar & Oct	Low	3	4	Medium
	Socio-economic and heritage Tourism – significant fishing/charter boat tourism, camping and use of nearshore sanctuary zones (fishing, snorkelling)	Year-round	High	2	2	Medium
Southern Pilbara – Islands and Shoreline	Mangroves	N/A	Low	3	3	Low
	Turtles Critical nesting habitat for green turtle (<i>Chelonia mydas</i>) (endangered), flatback turtle (<i>Natator depressus</i>) (data deficient), hawksbill turtle (<i>Eretmochelys imbricata</i>) (critically endangered) and loggerhead (<i>Caretta caretta</i>) (vulnerable).	Oct to Apr	Low	4	3	Medium
	Marine mammals Humpback whale (<i>Megaptera novaeangliae</i>) (least concern) migration area. Australian humpback dolphin (<i>Sousa sahulensis</i>) (vulnerable), Indo-Pacific bottlenose dolphin (unknown) and dugong (<i>Dugong dugon</i>) (vulnerable) utilise the shallow intertidal waters around islands.	Humpback whale migration: Jun to Oct	High	3	2	Medium
	Birds Staging point/feeding area for migratory shore birds. Seabird nesting, resting and foraging on and around islands.	Migratory shorebirds: Aug to Apr Seabirds: Species dependant	Low	3	2	Low

Receptor	Key sensitivities / values	Relevant key periods	Baseline Priority	DTMI Ranking (Floating oil)	DTMI Ranking (Dissolved oil)	Initial Monitoring Priority
	Fish Green sawfish (<i>Pristis zijsron</i>) (critically endangered).	Unknown	Low	4	5	High
	Coral and other subsea benthic habitats	Coral spawning: Mar & Oct	High	3	4	High
	Socio-economic Recreational fishing/ charter boats, tourism related to water-based activities and nature. Camping beaches.	Year-round	High	4	4	High
Montebello Islands	Mangroves Montebello Islands' mangrove communities are regarded as globally unique.	N/A	High	3	3	Medium
	Turtles Nesting area for green (<i>Chelonia mydas</i>) (endangered), flatback (<i>Natator depressus</i>) (data deficient), and hawksbill (<i>Eretmochelys imbricata</i>) (critically endangered) turtles. The islands are recognised as critical habitat for flatback turtles and for hawksbill turtles, with key sites for the latter including Ah Chong Island, South East Island, and Trimouille Island.	Turtle nesting Nov to Mar	High	4	3	High
	Marine mammals Pygmy blue whale (vulnerable) and humpback whale (<i>Megaptera novaeangliae</i>) (least concern) migration area. Resident populations of Indo-Pacific bottlenose dolphin (<i>Tursiops aduncus</i>) (unknown and Australian humpback dolphins (<i>Sousa sahulensis</i>) (vulnerable). Dugong (<i>Dugong dugon</i>) (vulnerable) foraging.	Pygmy blue whale migration: Apr to Aug Humpback whale migration: Jun to Oct	High	3	2	Medium
	Birds Significant seabird nesting and foraging areas. Staging point/feeding area for migratory shore birds.	Seabird: Species dependant Migratory shorebirds: Aug to Apr	High, with the exception of wedge-tailed shearwater on Ah Chong Island (low)	3	2	Medium
	Coral and other subsea benthic primary producers	Coral spawning: Mar & Oct	High	3	4	High
	Socio-economic Pearling (inactive/pearling zones). Very significant for recreational fishing and charter boat tourism (Marine Management Area). Social amenities and other tourism. Nominated place (National Heritage).	Year-round	High	3	2	Medium
Montebello AMP	Coral and other subsea benthic primary producers A prominent seafloor feature in the Marine Park is Tryal Rocks consisting of two close coral reefs. The reefs are emergent at low tide.	Coral spawning: Mar & Oct	High	3	4	High
	Turtles Biologically important interesting, foraging, mating, and nesting habitat for turtles.	Nesting green and flatback turtles: Oct to Mar (hawksbill can nest all year)	High	3	3	Medium
	Birds Biologically important breeding habitat for seabirds.	Species dependant	High	3	2	Medium
	Whale shark Biologically important habitat for whale shark (<i>Rhincodon typus</i>) (endangered)		High	3	4	High
	Marine mammals Humpback whale (<i>Megaptera novaeangliae</i>) (least concern) migration area.	Jun to Oct	High	3	2	Medium
	Socio-economic Pearling (inactive/pearling zones). Very significant for recreational fishing and charter boat tourism (Marine Management Area). Shipwreck (Tryal).	Year-round	High	3	2	Medium
Barrow Island	Mangroves	N/A	High	3	3	Medium
	Turtles Regionally and nationally significant green turtle (<i>Chelonia mydas</i>) (endangered) (western side) and flatback turtle (<i>Natator depressus</i>) (data deficient) (eastern side) nesting. Small numbers of hawksbill turtle (<i>Eretmochelys imbricata</i>) (critically endangered) nesting.	Year round, peaking Oct to Jan	High, with the exception of nesting flatback turtles (low)	4	3	High
	Marine mammals Humpback whale (<i>Megaptera novaeangliae</i>) (least concern) migration area. Resident populations of bottlenose dolphins and Australian humpback dolphin (<i>Sousa sahulensis</i>) (vulnerable). Dugong (<i>Dugong dugon</i>) (vulnerable) foraging.	Humpback whale migration: Jun to Oct	High	3	2	Medium
	Birds Nationally significant site for migratory shorebirds, serving both as a key staging area during migration and as a non-breeding destination. Double Island has important bird nesting sites (shearwaters and sea eagles).	Migratory shorebirds: Aug to Apr	Low	2	1	Low
	Coral and other subsea benthic primary producers	Coral spawning: Mar & Oct	High	3	4	High
	Socio-economic Significant for recreational fishing and charter boat tourism, Nominated place (National heritage), Industry – Reverse Osmosis Plant and port operations. Petroleum Activities such as Barrow Island petroleum production.	Year-round	High	5	5	High
Lowendal Islands	Mangroves	N/A	High, with the exception of Varanus & Bridled Islands (low)	3	3	Medium

Receptor	Key sensitivities / values	Relevant key periods	Baseline Priority	DTMI Ranking (Floating oil)	DTMI Ranking (Dissolved oil)	Initial Monitoring Priority
	Coral and other subsea benthic primary producers	Coral spawning: Mar and Oct	High	3	4	High
	Turtles Flatback turtle (<i>Natator depressus</i>) (data deficient) , hawksbill turtle (<i>Eretmochelys imbricata</i>) (critically endangered), and green turtle (<i>Chelonia mydas</i>) (endangered) nesting.	Nesting all year, Hawksbill neseing peak Oct to Jan Flatback turtles nesting peaks Dec to Jan	High, with the exception of turtles at Varanus Island (low)	4	3	High
	Birds Significant seabird nesting and foraging areas.	Year-round	High for shorebirds Low for seabirds at Varanus, Abutilon, Beacon, Bridled, & Parakeelya Islands	2	1	Low
	Marine mammals Humpback whale (<i>Megaptera novaeangliae</i>) (least concern) migration area. Dugong (<i>Dugong dugon</i>) (vulnerable) foraging.	N/A	High	3	2	Medium
	Socio-economic and heritage Social amenities and other tourism, very significant for recreational fishing and charter boat tourism.	N/A	High	2	2	Low
Muiron Islands	Turtles Turtle nesting – major loggerhead (<i>Caretta caretta</i>) (vulnerable) site, significant green turtle (<i>Chelonia mydas</i>) (endangered) nesting site, low density hawksbill turtle (<i>Eretmochelys imbricata</i>) (critically endangered) nesting, occasional flatback (<i>Natator depressus</i>) (data deficient) presence	Loggerhead peak nesting: Nov to Jan Green peak nesting Dec to Jan	High	4	3	High
	Coral and other subsea benthic primary producers	Coral spawning: Mar & Oct	Low	3	4	Medium
	Birds Seabird nesting and foraging. Internationally important shorebird area	Seabird nesting: approximately Sep–Feb Migratory shorebirds: Aug to Apr	High	2	1	Low
	Marine mammals Humpback whale (<i>Megaptera novaeangliae</i>) (least concern) migration area.	Humpback whale migration: Jun to Oct	High	3	2	Medium
	Fish Shallow macroalgal habitats identified as important juvenile habitat for blue-spotted emperor (<i>Lethrinus punctulatus</i>) (least concern).	Year-round	Low	1	1	Low
	Socio-economic and heritage Exmouth gulf prawn fishery (Muiron is western boundary); significant for recreational fishing and charter boat tourism	Prawn fishery – April to November	High	1	2	Low
Carnarvon Canyon AMP	Socio-economic Commercial fishing	Year-round	High	1	2	Low
Gascoyne AMP	Birds Biologically important breeding habitat for seabirds: wedge-tailed shearwater (<i>Ardenna pacifica</i>) (least concern); roseate tern (<i>Sterna dougallii</i>) (least concern)	Species specific	High	3	2	Medium
	Turtle Biologically important interesting habitat for turtles	Main nesting: Hawksbill July-Mar Loggerhead Sept-Mar	High	3	3	Medium
	Marine mammals Humpback whale (<i>Megaptera novaeangliae</i>) (least concern) migration area. Pygmy blue whales (<i>Balaenoptera musculus brevicauda</i>) (endangered) foraging and migration area.	Pygmy blue whale migration: Apr to Aug (north bound) and Oct to Dec (south bound) Humpback whale migration: Jun to Oct	High	3	2	Medium
Ningaloo AMP	Coral and other subsea benthic primary producers Commonwealth waters adjacent to Ningaloo Reef (valued for high productivity and aggregations of marine life).	Coral spawning: Mar & Oct	Low	3	4	Medium
	Fish Continental slope demersal fish communities (valued for high levels of endemism and diversity).	-	Low	1	1	
	Shark Foraging habitat for whale sharks (<i>Rhincodon typus</i>) (endangered)	Whale sharks – Mar to Jul	Low	3	4	High
	Birds Biologically important breeding habitat for seabirds: fairy tern (<i>Sternula nereis</i>) (vulnerable); wedge-tailed shearwater (<i>Ardenna pacifica</i>) (least concern); roseate tern (<i>Sterna dougallii</i>) (least concern)	Species specific	High	3	2	Medium
	Turtle Biologically important interesting habitat for turtles	Main nesting: Hawksbill July-Mar Green Sept-Mar Flatback Sept-Mar Loggerhead Sept-Mar	Low	4	3	Medium
	Marine mammals Humpback whale (<i>Megaptera novaeangliae</i>) (least concern) migration area. Pygmy blue whales (<i>Balaenoptera musculus brevicauda</i>) (endangered) foraging and migration area. Dugong (<i>Dugong dugon</i>) (vulnerable) breeding, calving, foraging and nursing habitat.	Pygmy blue whale migration: Apr to Aug (north bound) and Oct to Dec (south bound) Humpback whale migration: Jun to Oct	High	3	2	Medium
Shark Bay AMP	Fish The Marine Park and adjacent coastal areas are also important for shallow-water snapper.	Year-round	High	1	2	Low
	Birds Biologically important breeding habitat for seabirds: fairy tern (<i>Sternula nereis</i>) (vulnerable); wedge-tailed	Species specific	High	3	2	Medium

Receptor	Key sensitivities / values	Relevant key periods	Baseline Priority	DTMI Ranking (Floating oil)	DTMI Ranking (Dissolved oil)	Initial Monitoring Priority
	shearwater (<i>Ardenna pacifica</i>) (least concern)					
	Turtle Biologically important interesting habitat for turtles.	Loggerhead nesting Oct - Mar	High	3	3	Medium
	Marine mammals Humpback whale (<i>Megaptera novaeangliae</i>) (least concern) migration area.	Humpback whale migration: Jun to Oct	High	3	2	Medium
	Socio-economic and heritage The Marine Park contains approximately 20 known shipwrecks. Tourism, commercial fishing, mining and recreation, including fishing.	Year-round	High	3	2	Medium
Reefs, shoals and banks	Coral and other subsea benthic primary producers	Coral spawning: Mar & Oct	High	3	4	High
	Marine mammals Humpback whale (<i>Megaptera novaeangliae</i>) migration area.	Humpback whale migration: Jun to Oct	High	3	2	Medium

C.3 Mobilisation and timing of OMP and SMP implementation

Table C-5 provides a list of OMPs and SMPs relevant to PAP activities, as well as indicative timeframes for mobilisation of each OMP and SMP for key receptors. In addition, monitor and evaluate activities will capture initial observations of fauna, habitat, and other sensitive receptors. Water samples will be collected during vessel surveillance for OM1: Hydrocarbon Characterisation, when safe to do so. SCAT teams will begin mobilisation within 48–72 hours of notification and will also document fauna observations. This information will be provided to the IMT to aid early decision making per the process outlined in Section 18.1 of the OSM-BIP.

Table C-5: Indicative OMP and SMP implementation schedule for OSM activities if initiation criteria are met

Proximity to spill source	Monitoring type	0–48 hours from OSM activation	Within 72 hours of OSM activation	~5–7 days from OSM activation	Weeks 1–2 from OSM activation	Ongoing
Spill site and surrounding waters	OM	- Activation of OMP Team Leads. - Finalise OMPs. - Aerial surveillance – which will also document fauna observations. - Commence activation and mobilisation of OM personnel.	- OM1: Hydrocarbon Characterisation, where resources are available (e.g. Supply Vessel with onboard sampling equipment). - OM2: Hydrocarbons in Water Assessment - OM3: Hydrocarbons in Sediment Assessment - OM4a: Surface Chemical Dispersant Effectiveness (commencing with Tier 1 SMART Protocol) - OM5: Rapid Marine Fauna Surveillance - Continue to finalise OMPs. - Continue to activate and mobilise OM personnel.	Continued (as per ongoing arrangements)	Continued (as per ongoing arrangements) OM4b: Subsea dispersant injection effectiveness monitoring	As results from implemented OMPs are available, data are provided to relevant personnel in IMT (e.g. Situation Unit) and used in the Incident Action Planning process for the next operational period. OMP is redesigned or reallocated according to the specifics of the actual spill.
	SM	- Commence activation and mobilisation process. - Activation of SMP Team Leads.	- Continue to activate and mobilise personnel. - Work on finalising SMPs.	- SM1: Water Quality Impact Assessment - SM2: Sediment Quality Impact Assessment - SM6: Benthic Habitat Assessment - SM7: Marine fish and elasmobranch assemblages assessment	Continued	Continue SMP monitoring until termination criteria are met
Sensitive receptors predicted to be contacted	OM	- Activation of OMP Team Leads. - Finalise OMPs. - Aerial surveillance – which	- OM1: Hydrocarbon Characterisation - OM2: Hydrocarbons in Water Assessment	Continued (as per on-going arrangements)	Continued (as per on-going arrangements)	As results from implemented OMPs are available, data are provided to relevant personnel in IMT (Situation

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Proximity to spill source	Monitoring type	0–48 hours from OSM activation	Within 72 hours of OSM activation	~5–7 days from OSM activation	Weeks 1–2 from OSM activation	Ongoing
within 7 days		- will also document fauna observations. - OM6: Shoreline Clean-up Assessment - Commence activation and mobilisation of OM personnel.	- OM3: Hydrocarbons in Sediment Assessment - OM5: Rapid Marine Fauna Surveillance - Continue to finalise OMPs. - Continue to activate and mobilise OM personnel.			Unit Lead) and used in the Incident Action Planning process for the next operational period. OMP is redesigned or reallocated according to the specifics of the actual spill until termination criteria are met
	SM	Activation of SMP Team Leads and finalisation of SMPs.	- Continue to activate and mobilise personnel. - Work on finalising SMPs.	- SM1: Water Quality Impact Assessment - SM2: Sediment Quality Impact Assessment - SM3: Intertidal and Coastal Habitat Assessment - SM4: Seabirds and Shorebirds - SM5: Marine Mega-fauna Assessment – Reptiles - SM5: Marine Mega-fauna Assessment – Cetaceans, Whale Sharks, Dugong - SM6: Benthic Habitat Assessment - SM7: Marine Fish and Elasmobranch Assemblages assessment - SM8: Fisheries impact assessment - SM9: Heritage Features Assessment - SM10: Social Impact Assessment	Continued	Continue SMP implementation until termination criteria are met.
Sensitive receptors (including shorelines, reefs, banks and shoals) predicted to be contacted week 1–2	OM	–	–	- Additional Activation of OMP Team Leads. - Commence activation and mobilisation of additional OM personnel.	- Continue to finalise OMPs. - Continue to activate and mobilise OM personnel. - OM1: Hydrocarbon Characterisation - OM2: Hydrocarbons in Water Assessment - OM3: Hydrocarbons in Sediment Assessment	As results from implemented OMPs are available, data are provided to relevant personnel in IMT (Situation Unit Leader) and used in the Incident Action Planning process for the next operational period. OMP is redesigned or reallocated according to the specifics of the actual spill until

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Proximity to spill source	Monitoring type	0–48 hours from OSM activation	Within 72 hours of OSM activation	~5–7 days from OSM activation	Weeks 1–2 from OSM activation	Ongoing
					- OM5: Rapid Marine Fauna Surveillance - OM6: Shoreline Clean-up Assessment	termination criteria are met
	SM	–	–	- Additional Activation of SMP Team Leads. - Commence activation and mobilisation of additional SM personnel.	- SM1: Water Quality Impact Assessment - SM2: Sediment Quality Impact Assessment - SM3: Intertidal and Coastal Habitat Assessment - SM4: Seabirds and Shorebirds - SM5: Marine Mega-fauna Assessment – Reptiles - SM5: Marine Mega-fauna Assessment – Cetaceans, Whale Sharks, Dugong - SM6: Benthic Habitat Assessment - SM7: Marine Fish and Elasmobranch Assemblages assessment - SM8: Fisheries impact assessment - SM9: Heritage Features Assessment - SM10: Social Impact Assessment	Continue SMP monitoring until termination criteria are met

C.4 Determine the OSM resourcing requirements and assess capability for the activity

To guide the resourcing requirements assessment for the PAP, the spill scenario (see Table 2-1) most likely to require the greatest initial capability was selected for further assessment. Selection was based on stochastic modelling results, focusing on the scenario predicted to contact the greatest number of receptors at the low hydrocarbon thresholds for floating, shoreline or dissolved contact within 14 days and at the highest contact probabilities. If a receptor is only contacted by low concentrations of entrained hydrocarbons and not by any other hydrocarbon phase, it will be considered a lower priority during the initial monitoring response as outlined in Section 2.2 of the OSM-BIP. The Pyrenees subsea release from a LOWC from Stickle-4H1 well (29,618 m³) scenario was identified as the worst-case scenario, affecting the most locations within 14 days and determined to require the greatest OSM capability.

The first 14 days of the response has been selected as the focus area for the OSM resourcing assessment as it is the period during which resources are likely to be overwhelmed, before additional resources (including appropriately qualified personnel, suitable vessels and additional monitoring equipment) can be scaled in locally and from interstate and international resources. Other factors influencing the selection of the scenario with the highest capability requirements were location of the spill, proximity to receptors, and hydrocarbon properties. The OSM Services Provider Contract includes provision of scale-up resources, which would be considered and mobilised as soon as practicable following the spill.

Monitoring Units

Using the stochastic modelling results for dissolved, floating and shoreline, Woodside has grouped the monitoring priorities for PAP activities into monitoring 'units' (Table C-6). These units incorporate all of the possible receptors that may be contacted by the PAP scenarios shown in Table C-1 at a probability >10%. Receptors only contacted by entrained hydrocarbons and no other phase of hydrocarbon are not included. These unit groupings are based on consultation with experienced monitoring personnel and planners, who often group these receptors together for time-bound monitoring projects. The grouping of units is based on factors such as access and distance to ports, SIMOPS of multiple vessels and teams working in a close area, travel time between individual locations/receptors and time taken to collect samples for each SMP.

The monitoring units presented in Table C-6 also include KEFs, BIAs and transient species. Additional information on the seasonality of the receptors can be found in Appendix B of the OSM-BIP and Table 4-14 of the EP. Each monitoring unit will require 1-2 teams during the initial response (first 14 days). The number of teams allocated to each unit will depend on the extent of the spill, the outcome of the monitoring prioritisation finalised at the time of the spill (Section 13 of the OSM-BIP), the ALARP assessment, and SIMOPS.

It should be noted that not all monitoring units will be contacted by a single spill and that the list below has been generated from stochastic modelling results. To help define OSM resourcing requirements, deterministic modelling has been used (Table C-7), where applicable to the nature and scale of the activity and spill scenarios.

Table C-6: Monitoring units for PAP activities relevant to stochastic modelling results

Monitoring Unit	Receptors with Monitoring Unit
Barrow	Humpback whale (migration) BIA
	Marine turtle BIAs
	Pygmy blue whale (distribution) BIA
	Seabird and shorebird BIAs
	Whale shark (foraging) BIA
	Barrow Island (including Boodie and Middle Islands)
	Lowendal Islands
	Barrow Island MP (State)*
	Barrow Island MMA
	Continental Slope Demersal Fish Communities KEF*
	Ancient Coastline at 125 m depth contour KEF*
Carnarvon	Shark Bay AMP*
	Dugong BIA
	Marine turtle BIAs

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Monitoring Unit	Receptors with Monitoring Unit
	Seabird and shorebird BIAs
	Carnarvon
	Commonwealth waters adjacent to the Ningaloo Reef KEF*
Montebello	Montebello AMP*
	Humpback whale (migration) BIA
	Marine turtle BIAs
	Pygmy blue whale (distribution) BIA
	Seabird and shorebird BIA
	Montebello Islands
	Montebello Islands MP*
	Continental Slope Demersal Fish Communities KEF*
	Ancient Coastline at 125 m depth contour KEF*
Ningaloo nearshore	Ningaloo AMP*
	Exmouth
	Ningaloo Coast World Heritage
	Ningaloo MP (State)*
	Cape Range
	Ningaloo Reef*
	North West Reef*
	Commonwealth Waters Adjacent to Ningaloo Reef KEF*
Ningaloo offshore	Gascoyne AMP*
	Dugong BIA
	Marine turtle BIA
	Pygmy blue whale (foraging and migration) BIAs
	Seabird and shorebird BIAs
	Whale shark (foraging) BIA
	Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEF*
	Continental Slope Demersal Fish Communities KEF*
	Exmouth Plateau KEF*
Southern Pilbara	Southern Pilbara – Islands and Shoreline
	Muiron Islands MP
	Muiron Islands
	Outtrim Patches*
	Marine turtle BIAs
	Pygmy blue whale (distribution) BIA
	Humpback whale (migration) BIA
	Seabird and shorebird BIAs
	Dugong (breeding) BIA
	Continental Slope Demersal Fish Communities KEF*
	Ancient Coastline at 125 m depth contour KEF*
	Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEF*
Offshore Environs	Rankin Bank*
	Glomar Shoals*
	Ancient Coastline at 125 m depth contour KEF*
	Continental Slope Demersal Fish Communities KEF*
	Humpback whale (migration) BIA
	Pygmy blue whale (distribution) BIA
	Whale shark (foraging) BIA
	Marine turtle BIAs
	Seabird and shorebird BIAs
Control	Control sites

*Submerged receptor that has no features above the sea surface.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Deterministic modelling

To better understand worst-case capability OSM requirements for this activity, deterministic modelling was undertaken for the Pyrenees subsea release from a LOWC from Stickle-4H1 well (29,618 m³). The deterministic run with the most shoreline receptors contacted at ≥ 10 g/m² within 14 days (Run Q1, 06) was selected for further analysis. Deterministic modelling enables oil spill planners to assess the results of a single run from the stochastic oil spill modelling results, helping to assess the possible worst-case capability requirements. The results of this deterministic assessment are presented in Table C-7.

To support understanding of the Monitoring Units potentially affected, Figure C-2 shows the Monitoring Units predicted to be contacted by the floating, shoreline and dissolved hydrocarbon phases within 14 days. Figure C-3 depicts the KEFs and their corresponding Monitoring Units, and Figure C-4 presents the combined BIAs and corresponding Monitoring Units predicted to be contacted by the floating, shoreline and dissolved hydrocarbon phases within 14 days.

The resources required to commence operational and scientific monitoring components during weeks 1–2 are presented in Table C-8 and Table C-9 respectively, which are based on the locations requiring a baseline review in Table C-2, the implementation schedule outlined in Table C-5, and the worst-case deterministic trajectory outlined in Table C-7, including the resources required for monitoring unaffected control sites.

Woodside's OSM capability arrangements are detailed in Sections 9 and 10 of the OSM-BIP. These sections demonstrate that Woodside has established arrangements to mobilise up to 5-6 teams for most OMPs and SMPs in the initial stages of a spill, and provision for scale-up capability, confirming that the OSM capability requirements for PAP activities (Table C-8 and Table C-9) are satisfied by the existing capability arrangements in the OSM-BIP.

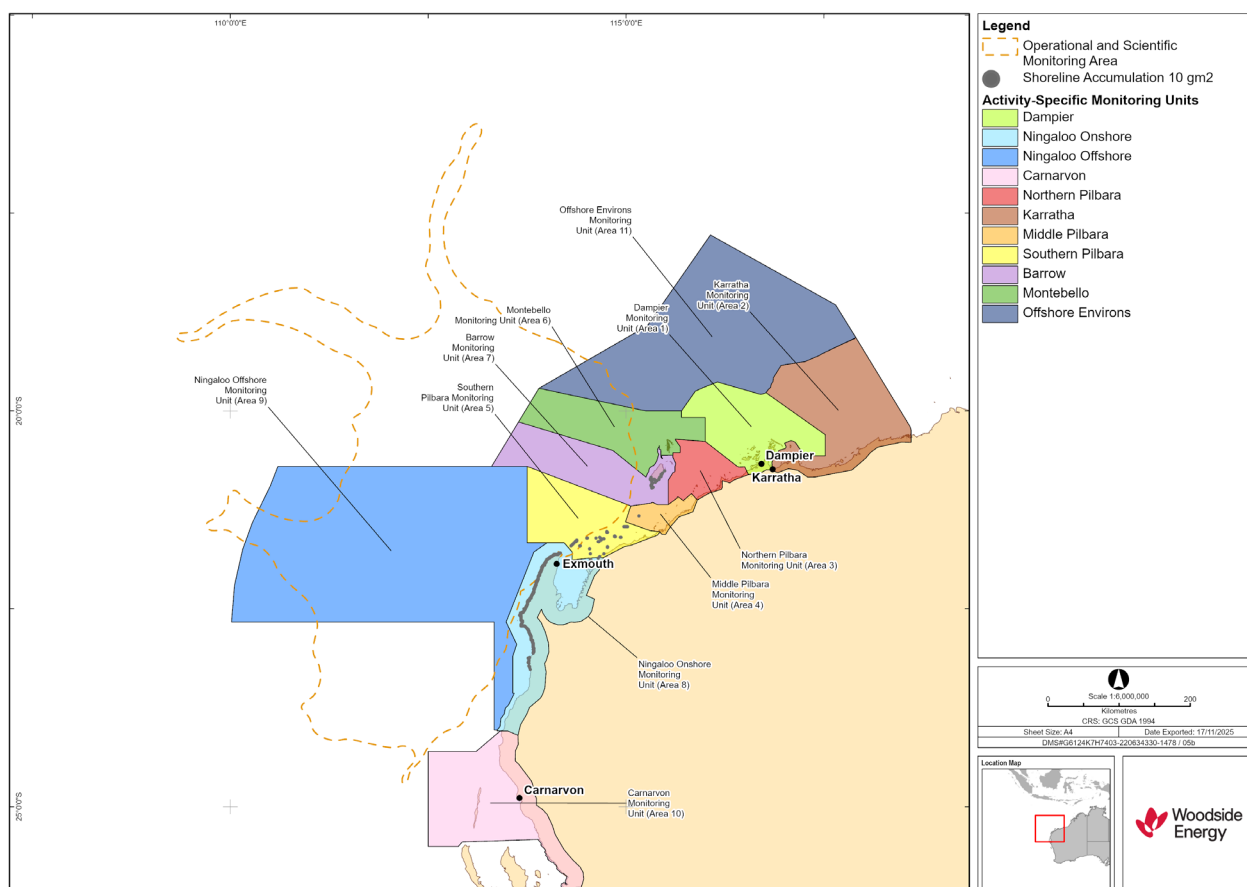


Figure C-2: Monitoring Units predicted to be contact in <14 days by PAP worst case deterministic scenario

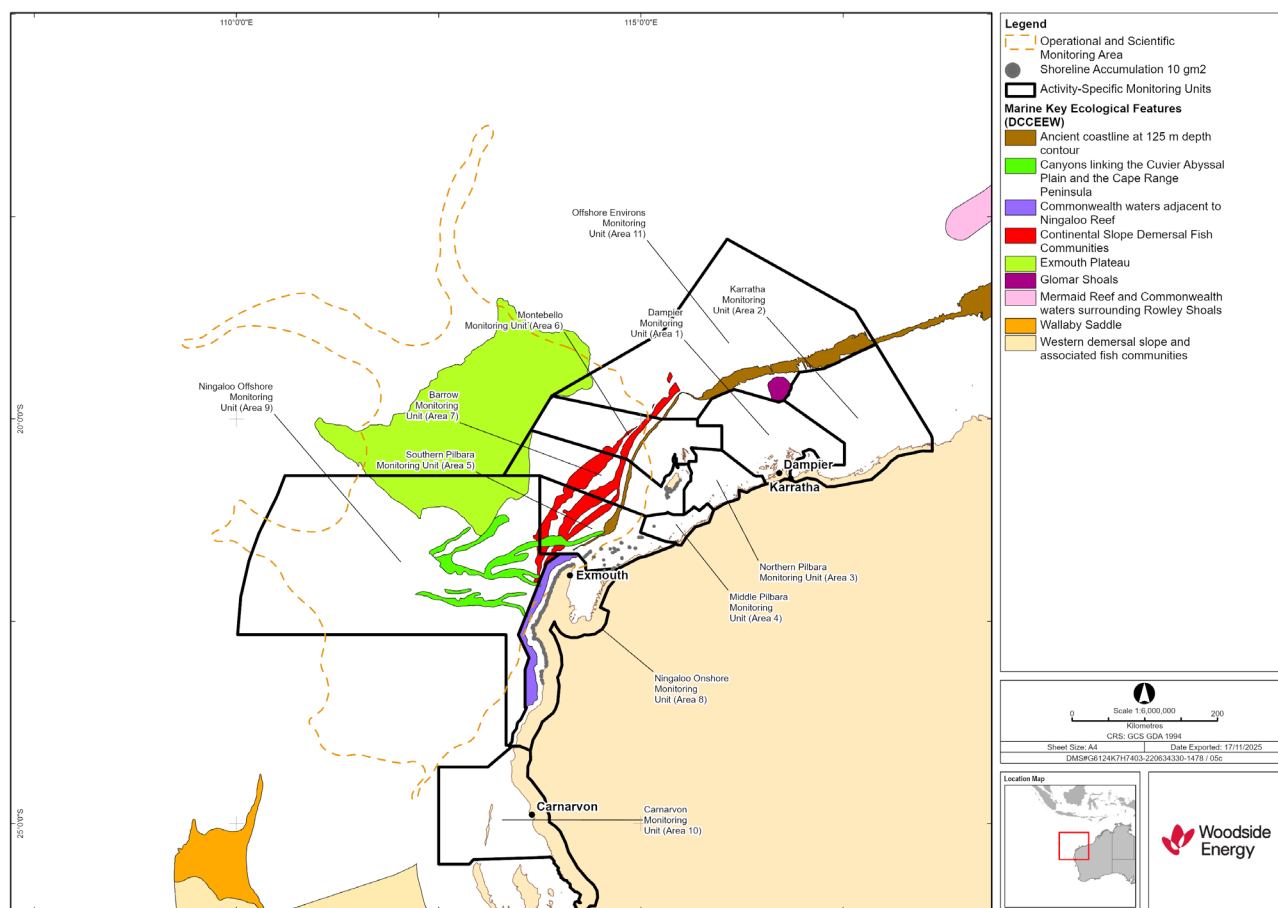


Figure C-3: KEFs and Monitoring Units predicted to be contact in <14 days by PAP worst case deterministic scenario

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

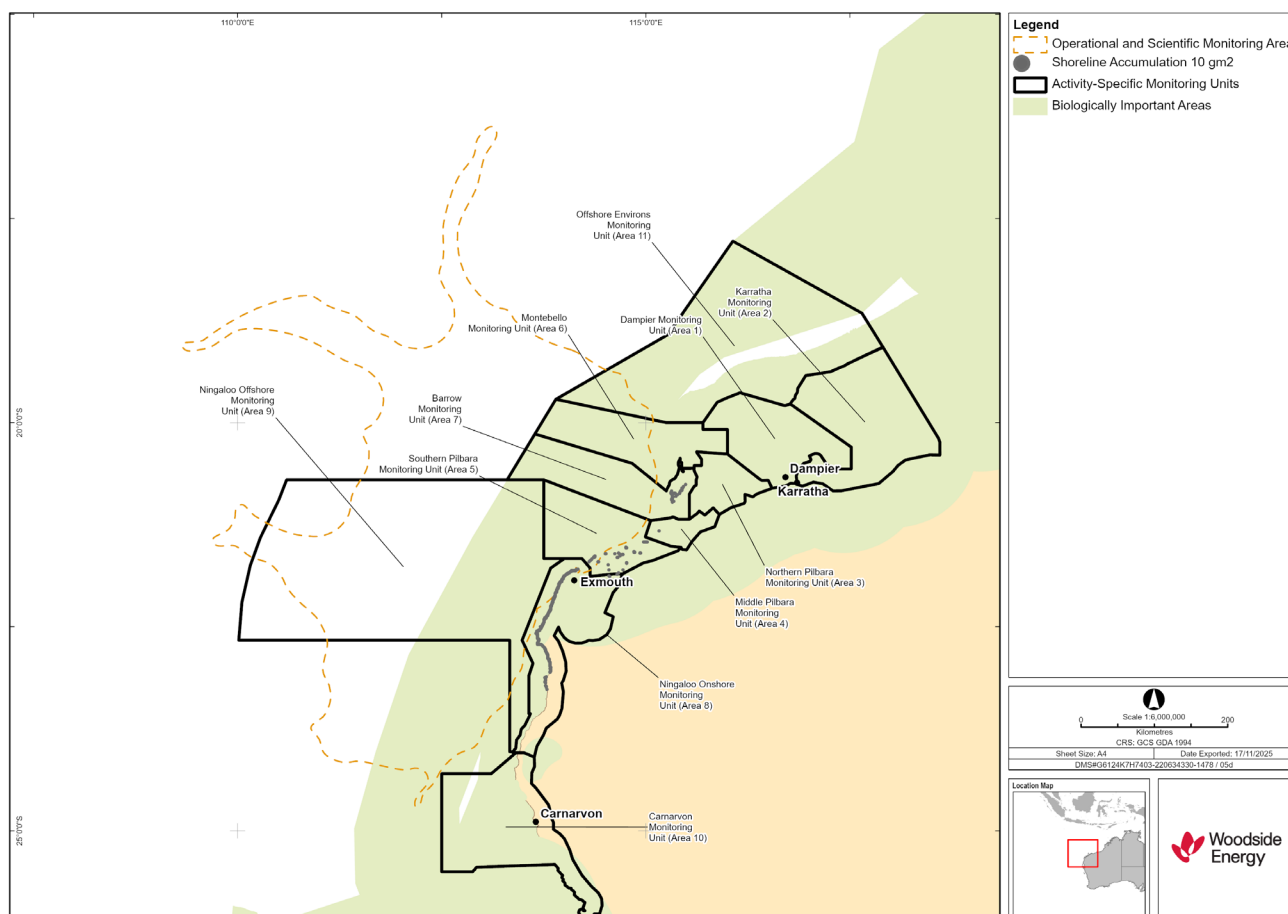


Figure C-4: BIAs and Monitoring Units predicted to be contact in <14 days by PAP worst case deterministic scenario

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Table C-7: Deterministic modelling results (Q1, Run 06) – Pyrenees subsea release from a LOWC from Stickle-4H1 well (29,618 m³)

Scientific monitoring priority area	Shoreline accumulation ≥10 g/m ² (days)	Maximum accumulated volume (m ³) with concentrations ≥10 g/m ²	Floating hydrocarbons ≥1 g/m ² (days)	Dissolved hydrocarbons ≥10 ppb (days)	Maximum dissolved hydrocarbon exposure (ppb)	Total hydrocarbons entrained ≥10 ppb (days)	Maximum entrained hydrocarbon exposure (ppb)
Gascoyne AMP*	NC	NC	NC	1.25	352	0.46	452
Ningaloo AMP*	NC	NC	3.58	1.63	148	1.04	567
Carnarvon	6.17	7	NC	NC	NC	NC	4
Exmouth	4.63	304	5.38	NC	NC	4.58	66
Exmouth Gulf South East	11.58	<1	NC	NC	NC	NC	NC
Southern Pilbara - Shoreline	11.50	<1	NC	NC	NC	NC	2
Airlie Island	10.46	<1	NC	NC	NC	NC	3
Ashburton Island	11.58	<1	NC	NC	NC	NC	NC
Barrow Island	10.42	9	NC	NC	NC	NC	4
Bessieres Island	8.58	2	NC	NC	NC	NC	7
Boodie Island	10.46	4	NC	NC	NC	NC	NC
Flat Island	7.42	6	NC	NC	NC	7.71	13
Fly Island	10.33	<1	NC	NC	NC	NC	NC
Locker Island	10.75	<1	NC	NC	NC	NC	3
Middle Island	10.42	2	NC	NC	NC	NC	2
Muiron Islands	6.17	41	NC	NC	2	6.67	54
Observation Island	11.58	<1	NC	NC	NC	NC	8
Peak Island	6.92	8	NC	NC	4	8.04	17
Rivoli Islands	11.50	<1	NC	NC	NC	NC	NC
Round Island	7.67	2	NC	NC	NC	NC	8
Serrurier Island	7.58	6	NC	NC	NC	NC	7
Southern Pilbara - Islands	6.92	28	NC	NC	NC	7.58	17
Sunday Island	6.50	9	NC	NC	NC	6.88	20
Table Island	11.79	<1	NC	NC	NC	NC	5
Thevenard Island	10.58	<1	NC	NC	NC	NC	4
Tortoise Island	10.50	<1	NC	NC	NC	NC	3
Muiron Islands MMA	6.17	50	6.21	NC	4	6.38	54
Ningaloo Coast WH	4.63	307	3.58	1.63	148	1.04	567
Ningaloo MP (State)	4.63	307	5.38	NC	7	3.58	148
Cape Range	4.63	132	5.46	NC	4	4.83	62

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Scientific monitoring priority area	Shoreline accumulation ≥10 g/m ² (days)	Maximum accumulated volume (m ³) with concentrations ≥10 g/m ²	Floating hydrocarbons ≥1 g/m ² (days)	Dissolved hydrocarbons ≥10 ppb (days)	Maximum dissolved hydrocarbon exposure (ppb)	Total hydrocarbons entrained ≥10 ppb (days)	Maximum entrained hydrocarbon exposure (ppb)
Boodie, Double Middle Islands Nature Reserve NR	10.42	5	NC	NC	NC	NC	NC
Thevenard Island NR	10.58	<1	NC	NC	NC	NC	NC
Ningaloo Reef*	NC	NC	5.38	NC	4	4.29	76
North West Reef*	NC	NC	6.00	NC	NC	6.04	21

Key

Receptor contacted within 7 days

Receptor contacted within 14 days

*Submerged receptor that has no features above the sea surface. Modelling indicates 'contact' with these receptors when the hydrocarbons pass over the receptor on the sea surface

NA = not applicable

NC = no contact

Table C-8: Resources required for initially implementing operational monitoring plans for PAP activity skills#

OMP	Week 1 (total)		Week 2 (total)	Arrangement
OM1: Hydrocarbon characterisation*^	1 team Southern Pilbara Unit# (including spill site and surrounds) 1 team Ningaloo Nearshore Unit 1 team Ningaloo Offshore and Carnarvon Unit Total 3 teams		1 team Southern Pilbara Unit# (including spill site and surrounds) 1 team Ningaloo Nearshore Unit 1 team Ningaloo Offshore Unit 1 team Barrow Unit 1 team Montebello Unit Total 5 teams	OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Laboratory arrangements
OM2: Hydrocarbon in water assessment*	Refer to OM1: Hydrocarbon characterisation* (all sites)			OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers
OM3: Hydrocarbon in sediment assessment*	Refer to OM1: Hydrocarbon characterisation* (all sites)			OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers
OM4a: Surface dispersant effectiveness monitoring	1 team for visual observations, which may be performed by trained aerial observers used during monitor and evaluate if trained in observation and verification of chemical dispersant effectiveness For water quality observations, refer to OM2: Hydrocarbon in water assessment			OSRL OSM Supplementary Service Agreement Australian Marine Oil Spill Centre (AMOSC) Master Services Agreement (MSA) Woodside Contracted Vessel Providers
OM4b: Subsea dispersant injection effectiveness monitoring	No subsea dispersant injection until week 2 due to mobilisation requirements	1 team		OSRL OSM Supplementary Service Agreement AMOSC MSA Woodside Contracted Vessel Providers
OM5: Rapid marine fauna surveillance	1 team to conduct aerial surveys for spill site, Ningaloo Nearshore and Ningaloo Offshore Units 1 team to conduct aerial surveys for Southern Pilbara, Barrow and Montebello Units Total 2 teams (2 observers per aircraft) <i>Note: Fauna related SMPs are likely to be initiated simultaneously or following aerial assessment with vessel and ground based fauna surveys carried out as part of the relevant fauna SMP.</i>			OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Aviation contractors
OM6: Shoreline clean-up assessment	Detail on resources required for shoreline clean-up assessment is presented in ANNEX D: Resourcing Requirements for OMP: Shoreline Clean-up Assessment			AMOSC MSA and/or OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers State/Territory Response Teams and AMSA National Response Team
OM7: Air quality modelling (responder health and safety)	1 model			3 rd party modelling provider / OSRO
Total number of teams	6 teams	9 teams		

* Specific monitoring units are mentioned for planning and guidance purposes based on a worst-case planning approach. In the event of an actual spill, other locations and/or receptors may be contacted and the ability to access these locations (i.e. with consideration of safety and simultaneous operations (SIMOPS)) would be assessed. This would be identified and managed as part of implementation as per the guidance in Section 13 of the BIP.

* Initial co-mobilisation between OMP1: Hydrocarbon characterisation, OM4a: Surface dispersant effectiveness monitoring, OMP2: Water quality assessment, and OMP3: Hydrocarbon in sediment assessment

^ These resources may not be required if relevant scientific monitoring components' initiation criteria have been triggered.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

Table C-9: Resources required for initially implementing scientific monitoring plans for PAP activity spills#

SMP	Week 1 (total)	Week 2 (total)	Arrangement
SM1: Water quality impact assessment **^	1 team Southern Pilbara Unit [#] (including spill site and surrounds) 1 team Ningaloo Nearshore Unit 1 team Ningaloo Offshore Unit 1 team control site(s) Total 4 teams	1 team Southern Pilbara Unit [#] (including spill site and surrounds) 1 team Ningaloo Nearshore Unit 1 team Ningaloo Offshore Unit 1 team Barrow Unit 1 team Montebello Unit 1 team control site(s) Total 6 teams	OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Laboratory arrangement
SM2: Sediment quality impact assessment *	Refer to SMP: Water quality impact assessment* (all sites)		OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Laboratory arrangement
SM3: Intertidal and coastal habitat assessment	1 team Southern Pilbara Unit [#] (including spill site and surrounds) 1 team Ningaloo Nearshore Unit 1 team control site(s) Total 3 teams	1 team Southern Pilbara Unit [#] (including spill site and surrounds) 1 team Ningaloo Nearshore Unit 1 team Barrow Unit 1 team control site(s) Total 4 teams	OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Laboratory arrangement
SM4: Seabirds and shorebirds^	1 team to conduct initial aerial surveys for Ningaloo Nearshore, Ningaloo Offshore and Southern Pilbara Units Total 1 aerial team 1 team to conduct vessel-based surveys Ningaloo Nearshore Unit 1 team Ningaloo Offshore Unit 1 team Southern Pilbara Unit 1 team control site(s) (surveys would include all fauna [birds, reptiles, cetaceans, dugong and whale shark]) Total 4 vessel-based teams 1 teams to conduct ground-based surveys for Ningaloo Nearshore Unit 1 team Southern Pilbara Unit 1 team control site(s) (1 experienced ornithologists per team) Total 3 ground-based teams	1 team to conduct initial aerial surveys for Ningaloo Nearshore and Ningaloo Offshore Units 1 team Southern Pilbara, Barrow and Montebello Units Total 2 aerial teams 1 team to conduct vessel-based surveys Ningaloo Nearshore Unit 1 team Ningaloo Offshore Unit 1 team Southern Pilbara Unit 1 team Barrow Unit 1 team Montebello Unit 1 team control site(s) (surveys would include all fauna [birds, reptiles, cetaceans, dugong and whale shark]) Total 6 vessel-based teams 1 teams to conduct ground-based surveys for Ningaloo Nearshore Unit 1 team Southern Pilbara Unit	OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Laboratory arrangement

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

SMP	Week 1 (total)	Week 2 (total)	Arrangement
		1 team Barrow Unit 1 team control site(s) (1 experienced ornithologists per team) Total 4 ground-based teams	
SM5: Marine mega-fauna assessment – whale shark, dugong and cetaceans^	Aerial surveys refer to SMP: Seabirds and shorebirds Vessel surveys refer to SMP: Seabird and shorebirds	Aerial surveys refer to SMP: Seabirds and shorebirds Vessel surveys refer to SMP: Seabird and shorebirds	OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Laboratory arrangement
SM5: Marine mega-fauna assessment – reptiles^	Aerial surveys refer to SMP: Seabirds and shorebirds Vessel surveys refer to SMP: Seabird and shorebirds Ground based survey refer to SMP: Seabird and shorebirds (including 1 member experienced with ground turtle surveys)	Aerial surveys refer to SMP: Seabirds and shorebirds Vessel surveys refer to SMP: Seabird and shorebirds Ground based survey refer to SMP: Seabird and shorebirds (including 1 member experienced with ground turtle surveys)	OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Laboratory arrangement
SM6: Benthic habitat assessment	1 team Southern Pilbara (including spill site and surrounds) 1 team Ningaloo Nearshore Unit 1 team Ningaloo Offshore Unit 1 team control site(s) Total 4 teams	1 team Southern Pilbara (including spill site and surrounds) 1 team Ningaloo Nearshore Unit 1 team Ningaloo Offshore Unit 1 team Barrow Unit 1 team Montebello Unit 1 team control site(s) Total 6 teams	OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Laboratory arrangement
SM7: Marine fish and elasmobranch assemblages assessment	1 team Southern Pilbara (including spill site and surrounds) 1 team Ningaloo Nearshore Unit 1 team Ningaloo Offshore Unit 1 team control site(s) Total 4 teams	1 team Southern Pilbara (including spill site and surrounds) 1 team Ningaloo Nearshore Unit 1 team Ningaloo Offshore Unit 1 team Barrow Unit 1 team Montebello Unit 1 team control site(s) Total 6 teams	OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Laboratory arrangement
SM8: Fisheries impact assessment	Total 2 teams to cover all relevant Commonwealth and State fisheries – initial locations determined in consultation with key stakeholders to reflect current fishing zones/effort		OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Laboratory arrangement
SM9: Heritage features assessment	1 team	1 team	OSRL OSM Supplementary Service Agreement Woodside Contracted Vessel Providers Laboratory arrangement

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

SMP	Week 1 (total)	Week 2 (total)	Arrangement
SM10: Social impact assessment	1 team	1 team	OSRL OSM Supplementary Service Agreement
Total number of teams	27 teams	35 teams	

Specific monitoring units are mentioned for planning and guidance purposes based on a worst case planning approach. In the event of an actual spill, other locations and/or receptors may be contacted and the ability to access these locations (i.e. with consideration of safety and SIMOPS) would be assessed. This would be identified and managed as part of implementation as per the guidance in Section 13 of the BIP.

* Initial co-mobilisation between SMP: Water quality impact assessment and SMP: Sediment quality impact assessment.

^ Can initially be performed by the same team as the relevant OMP. This SMP may replace the relevant OMP, if the relevant OMP's termination criteria are triggered.

ANNEX D: RESOURCING REQUIREMENTS FOR OMP: SHORELINE CLEAN-UP ASSESSMENT

Each shoreline clean-up assessment team will comprise 2–3 members and each team is assumed to be able to cover 10 km per team per day. Teams may be able to exceed this distance, especially if remote sensing techniques (e.g. UAVs) are used to cover shorelines that have access limitations, which includes many receptor locations in the EMBA.

Woodside will use initial monitor and evaluate data (e.g. trajectory modelling and aerial surveillance) to determine where resources should be allocated. This may include directing resources to conduct SCAT at locations not identified as RPAs, to determine if protection and clean-up activities may be required at these receptors.

Initially, shoreline clean-up assessment may be conducted via reconnaissance surveys and later confirmed via ground and/or vessel surveys.

Deterministic Run 22, Q1 (Pyrenees subsea release of 29,618 m³) (Table D-1) was selected to guide resourcing estimates because it had the minimum time to commencement of oil accumulation at any shoreline receptor at 100 g/m². Based on Run 22, Q1 (Pyrenees subsea release of 29,618 m³), the worst-case personnel requirements are 63 – 69 personnel – 21 to 23 teams with 2-3 personnel each (1 Team Leader and 1-2 Team Members). Noting that 14 – 16 teams would be required in the first 1 to 2 weeks of the spill.

Table D-2 lists the resource capability available to Woodside that may be used to implement SCAT.

Table D-1: Deterministic modelling results (Run 22, Q1) - Pyrenees subsea release of 29,618 m³ of Pyrenees Crude over 69 days from a loss of well integrity from Stickle-4H1 well (RPS, 2025)

Location	Min. arrival time shoreline accumulation ≥ 100 g/m ² (days)	Max. length of shoreline oiled (km) ≥ 100 g/m ²	Estimated no. of teams required
Ningaloo Coast WH Area	2.9	134	13-14
Muiron Islands	5.4	11	1-2
Sunday Island	6.2	2	
Southern Pilbara Islands	6.4	29	3
Barrow Island	23.5	17	3
Boodie Island	23.5	4	
Middle Island	23.5	6	
Southern Pilbara- Shoreline	54.6	1	1

Table D-2: Shoreline clean-up assessment – resource capability

Equipment type/ personnel required	Organisation	Quantity available	Location	Mobilisation timeframes
Shoreline assessment team leaders	Woodside	10	Perth, Karratha	<24–48 hours from time of shoreline contact prediction (WA-based, Woodside personnel, AMOSC staff and Core Group personnel)
	AMOSC Core Group	60+ (industry Core Group)	Perth, Dampier and other Australian locations	
	AMOSC staff	12	Perth and Geelong	

Equipment type/ personnel required	Organisation	Quantity available	Location	Mobilisation timeframes
	OSRL	18	Perth and international	5 personnel available from 2–3 days, remaining personnel available from 4–5 days (subject to approvals/ clearances)
Shoreline assessment team members (Trained using the E-learning program developed as part of the SCAT Training and Coordination Services available as part of the OSRL OSM Supplementary Agreement)	Woodside-contracted workforce hire company	As per availability (up to 200 within 48 hours)	Perth, Karratha	Subject to availability (indicatively 48+ hours)
Drones and pilots (To assist shoreline and vessel-based surveillance)	AMOSC	Drones available 24/7 through AMOSC sub-contract 1 pilot	Fremantle	Response via Duty Officer within 15 minutes of first call – AMOSC personnel available within 1 hour of initial activation call. Equipment logistics varies according to stockpile location
	OSRL – Third Party UAV provider	2 qualified remote pilots, however response is on best endeavour	Perth	Depending on the port of departure, 1–2 days if within Australia
	Local WA hire companies	10+	Perth and regional WA	<48 hours

ANNEX E: TACTICAL RESPONSE PLANS

TACTICAL RESPONSE PLANS
Exmouth
Mangrove Bay
Turquoise Bay
Yardie Creek
Muiron Islands
Jurabi to Lighthouse Beaches Exmouth
Ningaloo Reef – Refer to Mangrove/ Turquoise Bay and Yardie Creek
Exmouth Gulf
Shark Bay Area 1: Carnarvon to Wooramel
Shark Bay Area 2: Wooramel to Petite Point
Shark Bay Area 3: Petite Point to Dubaut Point
Shark Bay Area 4: Dubaut Point to Herald Bight
Shark Bay Area 5: Herald Bight to Eagle Bluff
Shark Bay Area 6: Eagle Bluff to Useless Loop
Shark Bay Area 7: Useless Loop to Cape Bellefin
Shark Bay Area 8: Cape Bellefin to Steep Point
Shark Bay Area 9: Western Shores of Edel Land
Shark Bay Area 10: Dirk Hartog Island
Shark Bay Area 11: Bernier and Dorre Islands
Abrolhos Islands: Pelseart Group
Abrolhos Islands: Wallabi Group
Abrolhos Islands: Easter Group
Dampier
Rankin Bank & Glomar Shoals
Barrow and Lowendal Islands
Pilbara Islands – Southern Island Group
Montebello Island – Stephenson Channel Nth TRP
Montebello Island – Champagne Bay and Chippendale channel TRP
Montebello Island – Claret Bay TRP
Montebello Island – Hermite/Delta Island Channel TRP
Montebello Island – Hock Bay TRP
Montebello Island – North and Kelvin Channel TRP
Montebello Island – Sherry Lagoon Entrance TRP
Withnell Bay
Holden Bay
King Bay

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

No Name Bay / No Name Beach
Enderby Island – Dampier
Rosemary Island – Dampier
Legendre Island – Dampier
Karratha Gas Plant
KGP to Withnell Creek
KGP to Northern Shore
KGP Fire Pond & Estuary
KGP to No Name Creek
Broome
Sahul Shelf Submerged Banks and Shoals
Clerke Reef (Rowley Shoals)
Imperieuse Island (Rowley Shoals)
Mermaid Reef (Rowley Shoals)
Scott Reef
Oiled Wildlife Response
Exmouth
Dampier region
Shark Bay

ANNEX F: DISPERSANT MODELLING RESULTS

Table F - 1: Subsea dispersant modelling results (CS-01)

		Minimum time (days) for accumulation on shoreline at $\geq 100 \text{ g/m}^2$	Maximum accumulated volume along receptor shoreline (m^3) with concentrations at $\geq 100 \text{ g/m}^2$	Minimum time (hours) for entrained oil at $>100 \text{ ppb}$	Maximum entrained oil concentration (ppb), at any depth at $>100 \text{ ppb}$	Minimum time (hours) for contact by dissolved hydrocarbons at $>10 \text{ ppb}$	Maximum dissolved aromatic hydrocarbon concentration (ppb) at $>10 \text{ ppb}$, at any depth
Gascoyne MP*	No Mitigation	No contact	No contact	468	690	448	248
	Subsea Dispersant	No contact	No contact	372	332	370	121
Ningaloo MP*	No Mitigation	No contact	No contact	417	654	414	263
	Subsea Dispersant	No contact	No contact	379	395	396	107
Southern Pilbara – Shoreline including Ashburton	No Mitigation	810	382	No contact	No contact	No contact	No contact
	Subsea Dispersant	790	343	No contact	No contact	No contact	No contact
Carnarvon	No Mitigation	839	82	No contact	No contact	No contact	No contact
	Subsea Dispersant	843	64	No contact	No contact	No contact	No contact
Exmouth, Ningaloo Coast WH and State MP	No Mitigation	762	3432	796	654	803	263
	Subsea Dispersant	759	3058	800	484	809	107
Exmouth Gulf South East	No Mitigation	810	282	No contact	No contact	No contact	No contact
	Subsea Dispersant	792	242	No contact	No contact	No contact	No contact
Karratha	No Mitigation	858	20	No contact	No contact	No contact	No contact
	Subsea Dispersant	860	9	No contact	No contact	No contact	No contact
Dampier Archipelago at Kendrew Island	No Mitigation	1317	2	No contact	No contact	No contact	No contact
	Subsea Dispersant	No contact	No contact	No contact	No contact	No contact	No contact
Middle and Northern Pilbara - Islands and Shoreline including Mary Anne Group	No Mitigation	835	88	No contact	No contact	No contact	No contact
	Subsea Dispersant	833	49	No contact	No contact	No contact	No contact
Airlie Island	No Mitigation	812	8	No contact	No contact	No contact	No contact
	Subsea Dispersant	696	12	No contact	No contact	No contact	No contact
Ashburton Island	No Mitigation	828	14	No contact	No contact	No contact	No contact
	Subsea Dispersant	769	15	No contact	No contact	No contact	No contact
Barrow Island and MMA	No Mitigation	802	107	No contact	No contact	No contact	No contact
	Subsea Dispersant	669	88	No contact	No contact	No contact	No contact
Bessieres Island	No Mitigation	757	50	No contact	No contact	No contact	No contact
	Subsea Dispersant	668	60	No contact	No contact	No contact	No contact
Bonaparte Archipelago including White Island and North Lalang-garram MP	No Mitigation	1747	2	No contact	No contact	No contact	No contact
	No Mitigation	No contact	No contact	No contact	No contact	No contact	No contact
Direction Island	Subsea Dispersant	833	12	No contact	No contact	No contact	No contact
	No Mitigation	780	13	No contact	No contact	No contact	No contact
Flat Island	Subsea Dispersant	759	40	No contact	No contact	No contact	No contact
	No Mitigation	747	35	No contact	No contact	No contact	No contact
Fly Island	Subsea Dispersant	800	12	No contact	No contact	No contact	No contact
	No Mitigation	791	9	No contact	No contact	No contact	No contact
Locker Island	No Mitigation	813	14	No contact	No contact	No contact	No contact
	Subsea Dispersant	781	14	No contact	No contact	No contact	No contact

		Minimum time (days) for accumulation on shoreline at ≥ 100 g/m ²	Maximum accumulated volume along receptor shoreline (m ³) with concentrations at ≥ 100 g/m ²	Minimum time (hours) for entrained oil at >100 ppb	Maximum entrained oil concentration (ppb), at any depth at >100 ppb	Minimum time (hours) for contact by dissolved hydrocarbons at >10 ppb	Maximum dissolved aromatic hydrocarbon concentration (ppb) at >10 ppb, at any depth
Lowendal Islands	No Mitigation	844	3	No contact	No contact	No contact	No contact
	Subsea Dispersant	828	5	No contact	No contact	No contact	No contact
Mangrove Islands	No Mitigation	845	17	No contact	No contact	No contact	No contact
	Subsea Dispersant	842	13	No contact	No contact	No contact	No contact
Montebello Islands and MP including Hermite Island	No Mitigation	830	32	No contact	No contact	No contact	No contact
	Subsea Dispersant	777	53	No contact	No contact	No contact	No contact
Muiron Islands and MMA	No Mitigation	672	244	No contact	No contact	510	29
	Subsea Dispersant	545	233	No contact	No contact	570	41
Observation Island	No Mitigation	773	17	No contact	No contact	No contact	No contact
	Subsea Dispersant	766	16	No contact	No contact	No contact	No contact
Passage Islands	No Mitigation	869	16	No contact	No contact	No contact	No contact
	Subsea Dispersant	897	12	No contact	No contact	No contact	No contact
Rivoli Islands	No Mitigation	794	70	No contact	No contact	No contact	No contact
	Subsea Dispersant	778	77	No contact	No contact	No contact	No contact
Round Island	No Mitigation	795	17	No contact	No contact	No contact	No contact
	Subsea Dispersant	768	23	No contact	No contact	No contact	No contact
Serrurier Island	No Mitigation	759	72	No contact	No contact	No contact	No contact
	Subsea Dispersant	758	77	No contact	No contact	No contact	No contact
Southern Pilbara - Islands including Peak Island	No Mitigation	743	456	No contact	No contact	No contact	No contact
	Subsea Dispersant	668	467	No contact	No contact	No contact	No contact
Sunday Island	No Mitigation	702	44	No contact	No contact	No contact	No contact
	Subsea Dispersant	724	43	No contact	No contact	No contact	No contact
Table Island	No Mitigation	765	17	No contact	No contact	No contact	No contact
	Subsea Dispersant	762	30	No contact	No contact	No contact	No contact
Thevenard Island and NR	No Mitigation	805	69	No contact	No contact	No contact	No contact
	Subsea Dispersant	700	56	No contact	No contact	No contact	No contact
Tortoise Island	No Mitigation	808	27	No contact	No contact	No contact	No contact
	Subsea Dispersant	761	25	No contact	No contact	No contact	No contact
Twin Island	No Mitigation	839	15	No contact	No contact	No contact	No contact
	Subsea Dispersant	826	15	No contact	No contact	No contact	No contact
Whalebone Island	No Mitigation	810	14	No contact	No contact	No contact	No contact
	Subsea Dispersant	796	10	No contact	No contact	No contact	No contact
White Island	No Mitigation	1747	2	No contact	No contact	No contact	No contact
	No Mitigation	No contact	No contact	No contact	No contact	No contact	No contact
Cape Range	No Mitigation	773	1542	802	586	819	14
	Subsea Dispersant	774	1254	804	221	No contact	No contact
Boodie, Double Middle Islands Nature Reserve NR	No Mitigation	818	50	No contact	No contact	No contact	No contact
	Subsea Dispersant	669	33	No contact	No contact	No contact	No contact
Great Sandy Island NR	No Mitigation	835	32	No contact	No contact	No contact	No contact

		Minimum time (days) for accumulation on shoreline at ≥ 100 g/m ²	Maximum accumulated volume along receptor shoreline (m ³) with concentrations at ≥ 100 g/m ²	Minimum time (hours) for entrained oil at >100 ppb	Maximum entrained oil concentration (ppb), at any depth at >100 ppb	Minimum time (hours) for contact by dissolved hydrocarbons at >10 ppb	Maximum dissolved aromatic hydrocarbon concentration (ppb) at >10 ppb, at any depth
	Subsea Dispersant	833	23	No contact	No contact	No contact	No contact
North Sandy Island NR	No Mitigation	879	5	No contact	No contact	No contact	No contact
	Subsea Dispersant	1,102	4	No contact	No contact	No contact	No contact
Tent Island	No Mitigation	810	19	No contact	No contact	No contact	No contact
	Subsea Dispersant	807	17	No contact	No contact	No contact	No contact
Y Island	No Mitigation	794	15	No contact	No contact	No contact	No contact
	Subsea Dispersant	793	14	No contact	No contact	No contact	No contact
Bundegi	No Mitigation	777	3	No contact	No contact	No contact	No contact
	Subsea Dispersant	777	2	No contact	No contact	No contact	No contact
Burnside And Simpson Island	No Mitigation	816	13	No contact	No contact	No contact	No contact
	Subsea Dispersant	817	10	No contact	No contact	No contact	No contact
Weld Island	No Mitigation	858	4	No contact	No contact	No contact	No contact
	Subsea Dispersant	881	2	No contact	No contact	No contact	No contact
Montebello Shoals	No Mitigation	830	7	No contact	No contact	No contact	No contact
	Subsea Dispersant	777	9	No contact	No contact	No contact	No contact
Ningaloo Reef	No Mitigation	769	410	798	645	798	25
	Subsea Dispersant	765	294	799	484	805	18
North West Reef	No Mitigation	No contact	No contact	No contact	No contact	547	18
	Subsea Dispersant	No contact	No contact	No contact	No contact	No contact	No contact

Table F - 2: Surface dispersant modelling results (CS-02)

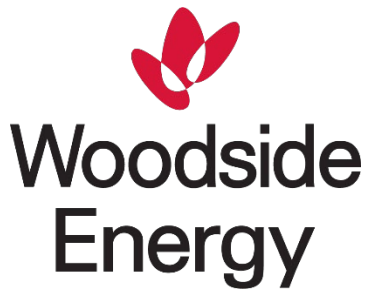
		Minimum time (days) for accumulation on shoreline at ≥ 100 g/m ²	Maximum accumulated volume along receptor shoreline (m ³) with concentrations at ≥ 100 g/m ²	Minimum time (hours) for entrained oil at >100 ppb	Maximum entrained oil concentration (ppb), at any depth at >100 ppb	Minimum time (hours) for contact by dissolved hydrocarbons at >10 ppb	Maximum dissolved aromatic hydrocarbon concentration (ppb) at >10 ppb, at any depth
Gascoyne MP*	No Mitigation	No contact	No contact	17	15,645	17	3641
	Surface Dispersant	No contact	No contact	17	16,155	18	2277
Southern Pilbara - Shoreline at Ashburton	No Mitigation	17	3571	No contact	No contact	No contact	No contact
	Surface Dispersant	16	3593	No contact	No contact	No contact	No contact
Carnarvon	No Mitigation	18	3	No contact	No contact	No contact	No contact
	Surface Dispersant	No contact	No contact	No contact	No contact	No contact	No contact
Exmouth, Ningaloo Coast WH, MP and State MP	No Mitigation	15	155	15	20,240	16	3875
	Surface Dispersant	15	171	15	19,912	16	4,937
Exmouth Gulf South East including Whalebone Island and Tent Island	No Mitigation	17	115	No contact	No contact	No contact	No contact
	Surface Dispersant	16	133	No contact	No contact	No contact	No contact
Exmouth Gulf West	No Mitigation	No contact	No contact	No contact	No contact	No contact	No contact
	Surface Dispersant	15	2	No contact	No contact	No contact	No contact
Karratha	No Mitigation	No contact	No contact	No contact	No contact	No contact	No contact
	Surface Dispersant	18	5	No contact	No contact	No contact	No contact
Middle Pilbara - Islands and Shoreline including Mary-Anne Group	No Mitigation	No contact	No contact	No contact	No contact	No contact	No contact
	Surface Dispersant	18	14	No contact	No contact	No contact	No contact
Airlie Island	No Mitigation	15	182	No contact	No contact	No contact	No contact

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Document to be read in conjunction with Pyrenees Facility Operations Environment Plan.

		Minimum time (days) for accumulation on shoreline at ≥ 100 g/m ²	Maximum accumulated volume along receptor shoreline (m ³) with concentrations at ≥ 100 g/m ²	Minimum time (hours) for entrained oil at >100 ppb	Maximum entrained oil concentration (ppb), at any depth at >100 ppb	Minimum time (hours) for contact by dissolved hydrocarbons at >10 ppb	Maximum dissolved aromatic hydrocarbon concentration (ppb) at >10 ppb, at any depth
	Surface Dispersant	15	174	No contact	No contact	No contact	No contact
Ashburton Island	No Mitigation	17	23	No contact	No contact	No contact	No contact
	Surface Dispersant	16	35	No contact	No contact	No contact	No contact
Barrow Island	No Mitigation	12	924	No contact	No contact	No contact	No contact
	Surface Dispersant	12	1053	No contact	No contact	No contact	No contact
Bessieres Island	No Mitigation	12	216	No contact	No contact	No contact	No contact
	Surface Dispersant	14	225	No contact	No contact	No contact	No contact
Direction Island	No Mitigation	17	11	No contact	No contact	No contact	No contact
	Surface Dispersant	17	11	No contact	No contact	No contact	No contact
Flat Island	No Mitigation	15	111	No contact	No contact	No contact	No contact
	Surface Dispersant	14	117	No contact	No contact	No contact	No contact
Fly Island	No Mitigation	16	7	No contact	No contact	No contact	No contact
	Surface Dispersant	16	7	No contact	No contact	No contact	No contact
Locker Island	No Mitigation	16	176	No contact	No contact	No contact	No contact
	Surface Dispersant	16	176	No contact	No contact	No contact	No contact
Lowendal Islands	No Mitigation	15	4	No contact	No contact	No contact	No contact
	Surface Dispersant	15	4	No contact	No contact	No contact	No contact
Mangrove Islands	No Mitigation	No contact	No contact	No contact	No contact	No contact	No contact
	Surface Dispersant	18	10	No contact	No contact	No contact	No contact
Montebello Islands	No Mitigation	14	885	No contact	No contact	No contact	No contact
	Surface Dispersant	14	683	No contact	No contact	No contact	No contact
Muiron Islands and MMA	No Mitigation	14	57	114	288	144	92
	Surface Dispersant	14	60	111	946	117	146
Observation Island	No Mitigation	15	11	No contact	No contact	No contact	No contact
	Surface Dispersant	16	10	No contact	No contact	No contact	No contact
Rivoli Islands	No Mitigation	16	28	No contact	No contact	No contact	No contact
	Surface Dispersant	16	34	No contact	No contact	No contact	No contact
Round Island	No Mitigation	No contact	No contact	No contact	No contact	No contact	No contact
	Surface Dispersant	No contact	No contact	No contact	No contact	No contact	No contact
Serrurier Island	No Mitigation	15	272	No contact	No contact	No contact	No contact
	Surface Dispersant	14	244	No contact	No contact	No contact	No contact
Southern Pilbara - Islands including Peak Island	No Mitigation	12	1718	No contact	No contact	No contact	No contact
	Surface Dispersant	14	1770	No contact	No contact	No contact	No contact
Sunday Island	No Mitigation	15	13	No contact	No contact	No contact	No contact
	Surface Dispersant	15	20	No contact	No contact	No contact	No contact
Table Island	No Mitigation	15	20	No contact	No contact	No contact	No contact
	Surface Dispersant	15	14	No contact	No contact	No contact	No contact
Thevenard Island and NR	No Mitigation	16	579	No contact	No contact	No contact	No contact
	Surface Dispersant	15	631	No contact	No contact	No contact	No contact

		Minimum time (days) for accumulation on shoreline at ≥ 100 g/m ²	Maximum accumulated volume along receptor shoreline (m ³) with concentrations at ≥ 100 g/m ²	Minimum time (hours) for entrained oil at >100 ppb	Maximum entrained oil concentration (ppb), at any depth at >100 ppb	Minimum time (hours) for contact by dissolved hydrocarbons at >10 ppb	Maximum dissolved aromatic hydrocarbon concentration (ppb) at >10 ppb, at any depth
Tortoise Island	No Mitigation	16	88	No contact	No contact	No contact	No contact
	Surface Dispersant	16	88	No contact	No contact	No contact	No contact
Twin Island	No Mitigation	17	8	No contact	No contact	No contact	No contact
	Surface Dispersant	17	17	No contact	No contact	No contact	No contact
Barrow Island MMA	No Mitigation	12	672	No contact	No contact	No contact	No contact
	Surface Dispersant	12	747	No contact	No contact	No contact	No contact
Barrow Island MP (State)	No Mitigation	15	165	No contact	No contact	No contact	No contact
	Surface Dispersant	15	176	No contact	No contact	No contact	No contact
Montebello Islands MP including Hermite Island	No Mitigation	14	885	No contact	No contact	No contact	No contact
	Surface Dispersant	14	683	No contact	No contact	No contact	No contact
Cape Range	No Mitigation	16	8	254	114	247	26
	Surface Dispersant	16	9	No contact	No contact	419	15
Boodie, Double Middle Islands Nature Reserve NR	No Mitigation	12	8	No contact	No contact	No contact	No contact
	Surface Dispersant	12	4	No contact	No contact	No contact	No contact
Y Island	No Mitigation	16	3	No contact	No contact	No contact	No contact
	Surface Dispersant	16	5	No contact	No contact	No contact	No contact
Dailey Shoal*	No Mitigation	No contact	No contact	No contact	No contact	No contact	No contact
	Surface Dispersant	No contact	No contact	No contact	No contact	No contact	No contact
Hood Reef	No Mitigation	No contact	No contact	No contact	No contact	No contact	No contact
	Surface Dispersant	No contact	No contact	No contact	No contact	No contact	No contact
Montebello Shoals	No Mitigation	14	161	No contact	No contact	No contact	No contact
	Surface Dispersant	14	165	No contact	No contact	No contact	No contact
Ningaloo Reef	No Mitigation	15	36	36	6062	36	1339
	Surface Dispersant	No contact	No contact	36	5950	37	509
North West Reef*	No Mitigation	No contact	No contact	110	391	125	22
	Surface Dispersant	No contact	No contact	91	404	138	90
Otway Reef	No Mitigation	No contact	No contact	No contact	No contact	No contact	No contact
	Surface Dispersant	No contact	No contact	No contact	No contact	No contact	No contact

APPENDIX I: FIRST STRIKE PLAN



Pyrenees Facility Operations – Oil Pollution First Strike Plan

Corporate HSE

Hydrocarbon Spill Preparedness

November 2025

Revision 0b

TABLE OF CONTENTS

CONTROL AGENCIES AND INCIDENT CONTROLLERS.....	5
SPILLS IN STATE/PORT WATERS.....	5
RESPONSE PROCESS OVERVIEW	6
1. NOTIFICATIONS.....	7
2. RESPONSE TECHNIQUES	9
3. RESPONSE PROTECTION AREAS.....	12
4. DISPERSANT APPLICATION	15
APPENDIX A – CREDIBLE SPILL SCENARIOS AND HYDROCARBON INFORMATION	16
APPENDIX B – NOTIFICATION FORMS.....	17
APPENDIX C – SPILL ASSESSMENT QUESTIONS	19
APPENDIX D – COORDINATION STRUCTURE FOR A CONCURRENT HYDROCARBON SPILL IN BOTH COMMONWEALTH AND STATE WATERS/ SHORELINES	20
APPENDIX E – WOODSIDE INCIDENT MANAGEMENT STRUCTURE	21
APPENDIX F – WOODSIDE LIAISON OFFICER RESOURCES TO DTMI.....	22
APPENDIX G – DTMI LIAISON OFFICER RESOURCES TO WOODSIDE	26

CONTROL AGENCIES AND INCIDENT CONTROLLERS

Source	Location	Level	Jurisdictional Authority/ Hazard Management Agency	Control Agency	Incident Controller
Spill from facility including subsea infrastructure Note: pipe laying and accommodation vessels are considered a "facility" under Australian regulations	Commonwealth waters	1	NOPSEMA	Woodside	Person In Charge (PIC) with support from Onshore Team Leader (OTL)
		2/3		Woodside	Corporate Incident Management Team Incident Commander (CIMT IC)
	State waters	1/2/3	Western Australian Department of Transport (DTMI)	DTMI	DTMI Incident Controller
	Within port limits	1	DTMI	Port Authority	Port Harbour Master
		2/3		Port Authority/ DTMI	Port Harbour Master/ DTMI Incident Controller
Spill from vessel Note: SOPEP should be implemented in conjunction with this document	Commonwealth waters	1	Australian Marine Safety Authority (AMSA)	AMSA	Vessel Master
		2/3		AMSA	AMSA (with response assistance from Woodside)
	State waters	1/2/3	DTMI	DTMI	DTMI Incident Controller
	Within port limits	1	DTMI	Port Authority	Port Harbour Master
		2/3		Port Authority/ DTMI	Port Harbour Master/ DTMI Incident Controller

SPILLS IN STATE/PORT WATERS

In the event of a hydrocarbon spill (hereafter 'spill') where Woodside Energy (Australia) Pty Ltd (Woodside) is the responsible party and the spill may impact State waters and shorelines, Woodside (or the Vessel Master) will commence the initial response actions and notify the Western Australian Department of Transport (DTMI).

Initially Woodside will be required to make available an appropriate number of suitably qualified persons to work in the DTMI IMT ([APPENDIX F](#) – Woodside Liaison Officer resources to DTMI). DTMI's role as the Controlling Agency in State waters does not negate the requirement for Woodside to have appropriate plans and resources in place to adequately respond to a marine hydrocarbon spill incident in State Waters or to commence the initial response actions to a spill prior to DTMI establishing incident control in line with DTMI *Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements* (July 2020). Cost recovery arrangements for offshore marine pollution incidents (MOP) are in accordance with Section 9 of the Guidance Note:

https://www.transport.wa.gov.au/mediaFiles/marine/MAC_P_Westplan_MOP_OffshorePetroleumIndGuidance.pdf

Woodside's Incident Management Structure for a hydrocarbon spill, including Woodside Liaison Officer's command structure within DTMI can be seen at [APPENDIX E](#) – Woodside Incident Management Structure.

The coordination structure for a concurrent hydrocarbon spill in both Commonwealth and State waters/ shorelines is shown in [APPENDIX D](#) – Coordination structure for a concurrent hydrocarbon spill in both Commonwealth and State waters/ shorelines.

RESPONSE PROCESS OVERVIEW

For guidance on credible scenarios and hydrocarbon characteristics, refer to APPENDIX A		
ALL INCIDENTS	Notify the Woodside Communication Centre (WCC) on: [4]	
	If further support required, Incident Commander or delegate to implement this Oil Pollution First Strike Plan per relevant actions detailed in Table 1-1 and Table 2-1.	
LEVEL 1	FACILITY INCIDENT	VESSEL INCIDENT
	Coordinate pre-identified tactics in Table 2-1 of this Oil Pollution First Strike Plan. Remember to download each Operational Plan.	Notify AMSA and coordinate pre-identified tactics in Table 2-1 of this Oil Pollution First Strike Plan Remember to download each Operational Plan.
	If the spill escalates such that the site cannot manage the incident, inform the WCC on: [4] and escalate to a level 2/3 incident.	
LEVEL 2/3	FACILITY INCIDENT	VESSEL INCIDENT
	Handover control to CIMT and notify DTMI	Handover control to and stand up CIMT to assist.
	Commence quick revalidation of the recommended strategies on Table 2-1 taking into consideration seasonal sensitivities and current situational awareness. Commence validated strategies.	If requested by AMSA/Port Authority: Commence quick revalidation of the recommended strategies on Table 2-1 taking into consideration seasonal sensitivities and current situational awareness. Commence validated strategies.
	Create an Incident Action Plan (IAP) for all ongoing operational periods. The content of the IAP should reflect the selected response strategies based on current situational awareness. For the full detailed pre-operational Net Environmental Benefit Analysis (NEBA) see Appendix A of the Pyrenees Facility Operations Oil Spill Preparedness and Response Mitigation Assessment (OSPRMA).	If requested by AMSA: Create an IAP for all ongoing operational periods. The content of the IAP should reflect the selected response strategies based on current situational awareness. For the full detailed pre-operational NEBA see Appendix A of the Pyrenees Facility Operations OSPRMA.

1. NOTIFICATIONS

The Incident Controller or delegate must ensure the below notifications (Table 1-1) are completed within the designated timeframes.

For spills from a vessel, relevant notifications must be undertaken by a Woodside representative.

Table 1-1: Notifications

In the event of an incident between campaign vessels, also activate relevant vessel Emergency Response Plans and/or Bridging Documents

Timing	By	To	Name	Contact	Instruction	Form	Complete? (✓)
NOTIFICATIONS FOR ALL LEVELS OF SPILL							
Immediately	Offshore Installation Manager (OIM) or Vessel Master	Woodside Communication Centre (WCC)	Corporate Incident Management Team Incident Commander (CIMT IC)	[4]	Verbally notify WCC of event and estimated volume and hydrocarbon type. If further support required, Incident Commander or delegate to implement this Oil Pollution First Strike Plan per relevant actions detailed in Table 1-1 and Table 2-1.	Verbal	
Within 2 hours	Woodside Site Rep (WSR), CIMT IC or Delegate	National Offshore Petroleum Safety Environmental Management Authority (NOPSEMA ¹)	Incident notification office	[5]	Verbally notify NOPSEMA for spills >80L. Record notification using Initial Verbal Notification Form or equivalent and send to NOPSEMA as soon as practicable (cc to NOPTA and DMPE).	Link	
Within 3 days	WSR, CIMT IC or Delegate				Provide a written NOPSEMA Incident Report Form as soon as practicable (no later than 3 days after notification) (cc to NOPTA and DMPE) NOPSEMA [5] NOPTA [6] DMPE [7]	[5]	
As soon as practicable	CIMT IC or Delegate	Woodside	Environment Unit Leader	As per roster	Verbally notify Environment Unit Leader of event and seek advice on relevant performance standards from EP	Verbal	
Within 2 hours of becoming aware of a marine pollution incident (MOP) that occurs in or may impact state waters	CIMT IC or Delegate	WA Department of Transport and Major Infrastructure and Major Infrastructure	DTMI Maritime Environmental Emergency Response Unit (MEER) Duty Officer	[8]	Verbally notify DTMI MEER Duty Officer that a spill has occurred and, if required, request use of equipment stored in Karratha. Follow up with a written Marine Pollution Report (POLREP) as soon as practicable following verbal notification. Additionally, DTMI to be notified if spill is likely to extend into WA State waters. Request DTMI to provide Liaison to Woodside IMT.	[8]	
Within 24 hours of Woodside reporting the incident to the appropriate authority	CIMT IC or Delegate	Department of Primary Industries and Regional Development (DPIRD)			Notification to DPIRD via email within 24 hours of Woodside reporting the incident to the appropriate authority: [17]	Email	
As soon as practicable	CIMT IC or Delegate	Department of Climate Change, Energy, the Environment and Water (DCCEEW) Director of National Parks	Marine Park Compliance Duty Officer	[9]	The Marine Park Compliance Duty Officer is notified in the event of oil pollution within a marine park, or where an oil spill response action must be taken within a marine park, so far as reasonably practicable, prior to response action being taken. This notification should include: • titleholder details • time and location of the incident • proposed response arrangements and locations as per the OPEP • contact details for the response coordinator • confirmation of access to relevant monitoring and evaluation reports when available.	Verbal	
As soon as practicable if there is potential for oiled wildlife or the spill is expected to contact land or waters managed by WA Department of Biodiversity,	CIMT IC or Delegate	WA Department of Biodiversity, Conservation and Attractions (DBCA)	Duty Officer	[10]	Phone call notification	Verbal	

¹ Notification to NOPSEMA must be from a Woodside Representative.

Conservation and Attractions							
As soon as practicable	Public Information	Relevant persons/ organisations	To be determined	To be determined	Should it be identified that additional persons such as, but not limited to, commercial fishers or tourism operators may be affected, Woodside would, at the relevant time, engage with these parties as appropriate and in alignment with the OSPRMA for Pyrenees Facility Operations. Relevant persons/ organisations will be re-assessed throughout the response period.	Verbal initially	
As soon as practicable	Public Information	Relevant cultural authorities	To be determined	To be determined	Should it be identified that relevant cultural authorities may be affected, Woodside would, at the relevant time, engage with these parties as appropriate and in alignment with the OSPRMA for Pyrenees Facility Operations. Relevant cultural authorities will be re-assessed throughout the response period.	Verbal initially	
As soon as practicable	Public Information	Murujuga Aboriginal Corporation (MAC)	MAC CEO	[18]	Woodside will engage MAC and seek input to spill response planning as the relevant cultural authority as soon as practicable after becoming aware of a marine pollution incident that may impact cultural heritage values.	Verbal initially	
ADDITIONAL NOTIFICATIONS TO BE MADE ONLY IF SPILL IS FROM A VESSEL							
"Without delay" as per <i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i> (Cth) s 11(1)	Vessel Master	Australian Maritime Safety Authority (AMSA)	Rescue Coordination Centre (RCC)	[11]	Verbally notify AMSA RCC of the hydrocarbon spill. Follow up with a written Harmful Substances Report (POLREP) as soon as practicable following verbal notification.	[11]	
ADDITIONAL LEVEL 2/3 NOTIFICATIONS							
As soon as practicable	CIMT IC or Delegate	AMOSC	AMOSC Duty Manager	[12]	Notify AMOSC that a spill has occurred and follow-up with an email from the CIMT IC/ CIMT Deputy IC/ CMT Leader to formally activate AMOSC. Determine what resources are required consistent with the AMOS Plan and detail in a Service Contract that will be sent to Woodside from AMOSC upon activation.	[12]	
As soon as practicable	CIMT IC or Delegate	Oil Spill Response Limited (OSRL)	OSRL Duty Manager	[13]	Notification for all services: Contact OSRL duty manager and request assistance from technical advisor in Perth. Send the completed notification form to OSRL as soon as practicable.	[13]	
					Mobilisation of response personnel/ equipment: For mobilisation of response personnel/ resources, send the Mobilisation Form to OSRL as soon as practicable. The mobilisation form must be signed by a nominated callout authority from Woodside i.e. CIMT IC/ CIMT Deputy IC/ CMT Leader . OSRL can advise the names on the call out authority list, if required.	[13]	
					Mobilisation of Operational and Scientific Monitoring service: For mobilisation of Operational and Scientific Monitoring (OSM) service, send the OSM Mobilisation Form to OSRL as soon as practicable. The mobilisation form must be signed by a nominated callout authority from Woodside i.e. CIMT IC/ CIMT Deputy IC/ CMT Leader . OSRL can advise the names on the call out authority list, if required.	[13]	
As soon as practicable if extra personnel are required for incident support	CIMT IC or Delegate	Marine Spill Response Corporation (MSRC)	MSRC Response Manager	[14]	Activate the contract with MSRC (in full) for the provision of up to 14 personnel depending on what skills are required. Please note that provision of these personnel from MSRC are on a best endeavours basis and are not guaranteed.	Verbal	
IN THE EVENT OF A HYDROCARBON SPILL THAT IS LIKELY TO TRAVERSE INTERNATIONAL WATERS, CIMT WILL NOTIFY THE AUSTRALIAN DEPARTMENT OF FOREIGN AFFAIRS AND TRADE (DFAT): [19]							

2. RESPONSE TECHNIQUES

Table 2-1: Response techniques

Technique	Spill type			Level	Pre- Identified Tactics	Responsible	ALARP Commitment Summary	Link to Operational Plans for notification numbers and actions
	Crude LOWC	Crude Cargo	MDO					
Monitor and evaluate – tracking buoy	Yes	Yes	Yes	ALL	If a vessel is on location, consider the need to deploy the oil spill tracking buoy. If no vessel is on location, consider the need to mobilise oil spill tracking buoys from the King Bay Supply Base (KBSB) Stockpile. If a surface sheen is visible from the facility, deploy the satellite tracking buoy within two hours.	Operations	WITHIN 24 HOURS: Tracking buoy deployed within 2 hours.	Surveillance and Reconnaissance to Detect Hydrocarbons and Resources at Risk in the Operational Monitoring Operational Plan. Deploy tracking buoy in accordance with Link .
Monitor and evaluate – predictive modelling	Yes	Yes	Yes	ALL	Undertake initial modelling using the OceansMap and weathering fate analysis using Automated Data Inquiry for Oil Spills (ADIOS) or refer to the hydrocarbon information in Appendix A .	Situation or Environment	WITHIN 24 HOURS: Initial modelling within 6 hours using the Rapid Assessment Tool.	Predictive Modelling of Hydrocarbons to Assess Resources at Risk in the Operational Monitoring Operational Plan. <i>Planning Section to download and follow steps</i>
	Yes	Yes	Yes	ALL	Send Oil Spill Trajectory Modelling (OSTM) form (Appendix B, Form 7) to RPS Response ([15]).	Situation	WITHIN 24 HOURS: Detailed modelling within 4 hours of RPS Response receiving information from Woodside.	
Monitor and evaluate – aerial surveillance	Yes	Yes	Yes	ALL	Instruct Aviation Unit Leader to commence aerial observations in daylight hours. Aerial surveillance observer to complete log in Appendix B Form 8 .	Logistics – Aviation	WITHIN 24 HOURS: 2 trained aerial observers. 1 aircraft available. Report made available to the IMT within 2 hours of landing after each sortie.	Surveillance and Reconnaissance to Detect Hydrocarbons and Resources at Risk in the Operational Monitoring Operational Plan. <i>Planning Section to download and follow steps</i>
Monitor and evaluate – satellite tracking	Yes	Yes	Yes	ALL	The Situation Unit Leader to action satellite imagery services. This may be obtained via: • AMOSC Duty Manager: [12] • OSRL Duty Manager: [13] • KSAT: [16] • Others identified by CIMT	Situation	WITHIN 24 HOURS: Service provider will confirm availability of an initial acquisition within 2 hours. Data received to be uploaded into Woodside Common Operating Picture.	
Revalidate pre-operational NEBA	Yes	Yes	Yes	ALL	Environment Unit Leader to revalidate pre-operational NEBA against current situational awareness from monitor and evaluate techniques.	Environment	WITHIN 24 HOURS: Revalidate pre-operational NEBA and incorporate into IAP	Pre-operational NEBAs
Monitor and evaluate – pre-emptive assessment of receptors at risk	Yes	Yes	Yes	ALL	Consider the need to mobilise resources to undertake pre-emptive assessment of sensitive receptors at risk.	Planning or Environment	WITHIN 24 HOURS: In agreement with WA DTMI, deployment of 1 specialist for each of the Response Protection Areas (RPA) with predicted impacts.	Pre-emptive Assessment of Sensitive Receptors in the Operational Monitoring Operational Plan.
Operational monitoring – shoreline assessment	Yes	Yes	Yes	ALL	Consider the need to mobilise resources to undertake shoreline assessment surveys.	Planning or Environment	WITHIN 24 HOURS: In agreement with WA DTMI, deployment of 1 specialist trained in Shoreline Clean-up Assessment Technique (SCAT) for each of the RPAs with predicted impacts.	Mobilise OSM service via OSRL: [13] Refer to OSM Bridging Implementation Plan – Part B for additional implementation information: Link Refer to Joint Industry Operational And Scientific Monitoring Plan Framework for activation criteria and additional supporting information.
Operational and Scientific Monitoring	Yes	Yes	Yes	ALL	Consider the need to mobilise OSM resources via third party service provider.	Environment	WITHIN 24 HOURS: Notify service provider of spill event and mobilise required programs depending upon nature of spill event	
Surface dispersant	Potentially	Potentially	No	L2/3	Use of surface dispersant would also only be permitted and/or only appropriate where favourable metocean conditions are present, a net environmental benefit can be demonstrated e.g. minimising shoreline accumulations, and where application is undertaken only within the pre-defined ZoA as illustrated in Section 4 of this plan.	Logistics, Marine and Planning	WITHIN 24 HOURS: One FWADC aircraft with minimum payload of 1850 litres mobilised to site within four hours of activation. One additional FWADC mobilised to site within another 20 hours of activation. Access to dispersant stockpiles within 24-48 hours.	Surface Dispersant Operational Plan <i>Logistics Section to download and follow steps</i>

Technique	Spill type			Level	Pre- Identified Tactics	Responsible	ALARP Commitment Summary	Link to Operational Plans for notification numbers and actions
	Crude LOWC	Crude Cargo	MDO					
					If surface dispersant is deemed appropriate, dispersant mobilised from Woodside and AMOSC (Dampier and Exmouth) stockpiles. Consideration of mobilisation of interstate/international dispersant stockpiles.		2 offtake support vessels from integrated fleet will undertake dispersant trials within 24 hours of the release WITHIN 48 HOURS: Two additional FWADC and one Hercules mobilised to site within 48 hours of activation. One high-capacity aircraft with minimum payload of 10 m³ available to spray on day two. Two support vessels from integrated fleet will undertake dispersant trials within 48 hours of the release.	
Containment and recovery	Potentially	Yes	No	L2/3	Modelling undertaken for a loss of well containment predicts limited floating hydrocarbons at minimum thresholds required for feasible containment and recovery operations. If containment and recovery is considered feasible, mobilise equipment from Woodside, AMOSC, DTMI and AMSA Western Australian Stockpiles and relevant personnel. Consider mobilisation of interstate/international containment and recovery equipment and relevant personnel (i.e. OSRL).	Logistics and Planning	WITHIN 48 HOURS: Two vessel-based containment and recovery operations deployed. DAY 5: Six containment and recovery teams available by day five.	Containment and Recovery Operational Plan <i>Logistics Section to download and follow steps</i>
Mechanical dispersion	No	No	No	N/A	This response strategy is not recommended.			
In-situ burning	No	No	No	N/A	This response strategy is not recommended.			
Shoreline protection and deflection	Yes	Yes	Yes	L2/3	Equipment from Woodside and AMOSC stockpiles mobilised. Consideration of mobilisation of interstate/international shoreline protection equipment (i.e. OSRL).	Operations and Planning	WITHIN 24 HOURS: In agreement with WA DTMI, activate relevant Tactical Response Plans (TRPs) within 12 hours. In agreement with WA DTMI, mobilise teams to RPAs within 24 hours of operational monitoring predicting impacts. In agreement with WA DTMI (for Level 2/3 incidents), equipment mobilised from closest stockpile within 24 hours. WITHIN 48 HOURS: Supplementary equipment mobilised from AMOSC and State stockpiles within 48 hours. Supplementary equipment mobilised from OSRL within 48 hours.	Protection and Deflection Operational Plan <i>Logistics Section to download and follow steps</i>
Shoreline clean-up	Yes	Yes	Yes	L2/3	Equipment from Woodside and AMOSC stockpiles and relevant personnel mobilised. Consideration of mobilisation of interstate/ international shoreline clean-up equipment and relevant personnel (i.e. OSRL).	Logistics and Planning	WITHIN 24 HOURS: Relevant Tactical Response Plans (TRPs) will be identified in the First Strike Plan for activation within 24 hours of a release. In liaison with WA DTMI (for Level 2/3 incidents), mobilise and deploy 1-2 shoreline clean-up operations within 24 hours. In agreement with WA DTMI (for Level 2/3 incidents), equipment mobilised from closest stockpile within 24 hours. Access to ~203 m³ of solid and liquid waste storage available within 24 hours upon activation of 3rd party contract.	Shoreline Clean-up Operational Plan <i>Logistics Section to download and follow steps</i>

Technique	Spill type			Level	Pre- Identified Tactics	Responsible	ALARP Commitment Summary	Link to Operational Plans for notification numbers and actions
	Crude LOWC	Crude Cargo	MDO					
							WITHIN 48 HOURS: Supplementary equipment mobilised from AMOSC and State stockpiles within 48 hours. Supplementary equipment mobilised from OSRL within 48 hours.	
Oiled wildlife response	Yes	Yes	Yes	ALL	If oiled wildlife is a potential impact, request AMOSC to mobilise containerised oiled wildlife first strike kits and relevant personnel. Refer to relevant Tactical Response Plan for potential wildlife at risk. Mobilise AMOSC Oiled Wildlife Containers. Consider whether additional equipment is required from local suppliers.	Logistics and Planning	WITHIN 24 HOURS: Initiate a wildlife first strike response within 24 hours of confirmed or imminent wildlife contact as directed by relevant Operational Monitoring techniques and in liaison with DBCA.	Oiled Wildlife Response Operational Plan Link
SOURCE CONTROL TECHNIQUES								
Subsea First Response Toolkit	Yes	N/A	N/A	L2/3	As per Source Control Emergency Response Planning Guideline.	Source Control	WITHIN 48 HOURS: Remotely Operated Vehicle (ROV) on Mobile Offshore Drilling Unit (MODU) ready for deployment within 48 hours.	Source Control Emergency Response Planning Guideline Link Subsea Dispersant Application Operational Plan Link
Subsea Dispersant	Potentially	N/A	N/A	L2/3	Use of subsea dispersant injection would only be permitted and/or appropriate where favourable metocean conditions are present, a net environmental benefit can be demonstrated e.g. minimising surface expression or shoreline accumulations, and where the plume would be predicted to remain within the pre-defined Zone of Application (ZoA) illustrated in Section 4 of this plan. If subsea dispersant is deemed appropriate, mobilise subsea dispersant stockpile (Fremantle) from AMOSC and SFRT equipment (Jandakot) from AMOSC/ Oceaneering. Mobilise deep sea water quality monitoring equipment via IMR global contract. Suitable vessel required.	Operations, Logistics and Planning	WITHIN 24 HOURS: Mobilisation of SSDI toolkit and subsea dispersant (500 m³ available from AMOSC Fremantle stockpiles) to site. DAY 5: SSDI equipment and dispersant mobilised to site. Support vessels available to begin application on within 24-48 hours. DAY12: Subsea dispersant application able to be conducted at an application volume of 75m³ per day. Response established within 12 days of release.	
Capping Stack	Yes	N/A	N/A	L2/3	Conventional/ vertical capping stack deployment with a heavy lift vessel will be attempted at the discretion of the vessel master on the day, giving due regard to the safety of the vessel and crew and consideration to the factors that may influence a safe deployment such as plume and environmental conditions e.g. wind speed, wave height and current.	Source Control	DAY 16: Capping stack deployed by a chartered construction vessel.	
Relief Well	Yes	N/A	N/A	L2/3	As per Source Control Emergency Response Planning Guideline.	Source Control	WITHIN 24 HOURS: Identify source control vessel availability within 24 hours. WITHIN 48 HOURS: ROV on MODU ready for deployment within 48 hours.	

3. RESPONSE PROTECTION AREAS

Action: Provide relevant Control Agency with applicable Tactical Response Plans for any Response Protection Areas (RPAs) identified during operational monitoring.

Based on hydrocarbon spill modelling results, the sensitive receptors outlined in **Table 3-1** are identified as priority protection areas, as they have the potential to be contacted by hydrocarbon at or above impact threshold levels within 48 hours of a spill.

Table 3-1: Receptors for Priority Protection with Potential Impact within 48 Hours

Receptor	Distance and direction from Operational Area (km)	CS-01		CS-02		CS-03		Tactical Response Plans
		Minimum time to shoreline contact (above 100 g/m ²) in days	Maximum shoreline accumulation (above 100 g/m ²) in m ³	Minimum time to shoreline contact (above 100 g/m ²) in days	Maximum shoreline accumulation (above 100 g/m ²) in m ³	Minimum time to shoreline contact (above 100 g/m ²) in days	Maximum shoreline accumulation (above 100 g/m ²) in m ³	
Exmouth, Ningaloo Coast WH and State MP	27.5 km south-southeast	No contact within 48 hours	No contact within 48 hours	<48 hours	2029 m ³	<24 hours	126 m ³	Tactical Response Plans
Ningaloo/ Muiron Islands/ reserves/ reefs	26.5 km southeast	No contact within 48 hours	No contact within 48 hours	No contact within 48 hours	No contact within 48 hours	<24 hours	202 m ³	

Hydrocarbon spill modelling results indicate the sensitive receptors listed below have the potential to be contacted by hydrocarbons beyond 48 hours of a spill:

- Barrow/ Middle/ Boodie Islands/ reserves/ reefs
- Carnarvon
- Dampier Archipelago Islands/ reserves/ reefs
- Exmouth Gulf/ Islands/ reserves/ reefs
- Kimberley Islands/Reserves/Reefs/IPAs
- Lowendal, Hermite, Montebello Islands/ reserves/ reefs
- Middle Pilbara Islands/reserves/reefs
- North Pilbara Islands/reserves/reefs
- Northern Pilbara - Shoreline
- South Pilbara Islands/ reserves/ reefs
- Southern Pilbara – Shoreline
- Shark Bay region

Tactical Response plans for these locations can be accessed via the link [here](#) and include the details of potential forward operating bases and staging areas.

Oil Spill Trajectory Modelling specific to the spill event will be required to determine the regional sensitive receptors to be contacted beyond 48 hours of a spill.

Figure 3-1 illustrates the location of regional sensitive receptors in relation to the Pyrenees Facility Operations Operational Area and identifies priority protection areas.

Consideration should be given to other stakeholders (including mariners) in the vicinity of the spill location. **Table 3-2** indicates the assets within the vicinity of the Pyrenees Facility Operations Operational Area.

Table 3-2: Assets in the vicinity of the Pyrenees Facility Operations Operational Area

Asset	Distance and Direction from Operational Area	Operator
Ngujima-Yin FPSO	~12.9 km north-west	Woodside Energy Limited
Macedon Gas Plant	~78.8 km east-southeast	Woodside Energy Limited
Ningaloo Vision FPSO	~15.5 km north-northeast	Santos Limited

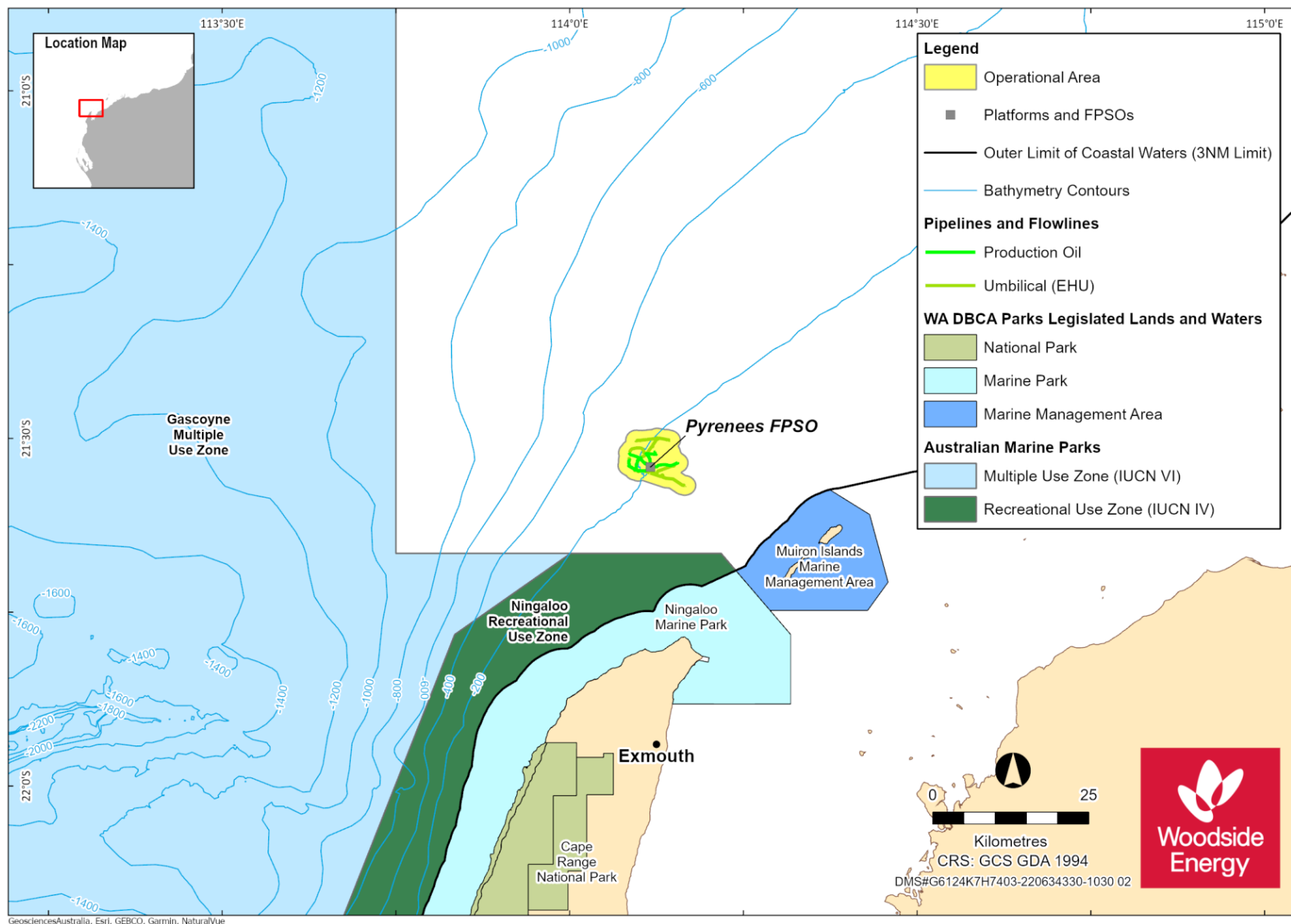


Figure 3-1: Regional sensitive receptors

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

4. DISPERSANT APPLICATION

Woodside has included surface dispersant spraying as a potential response technique in the instance that operational monitoring observes sufficient oil concentrations for it to be deployed.

INSTRUCTIONS

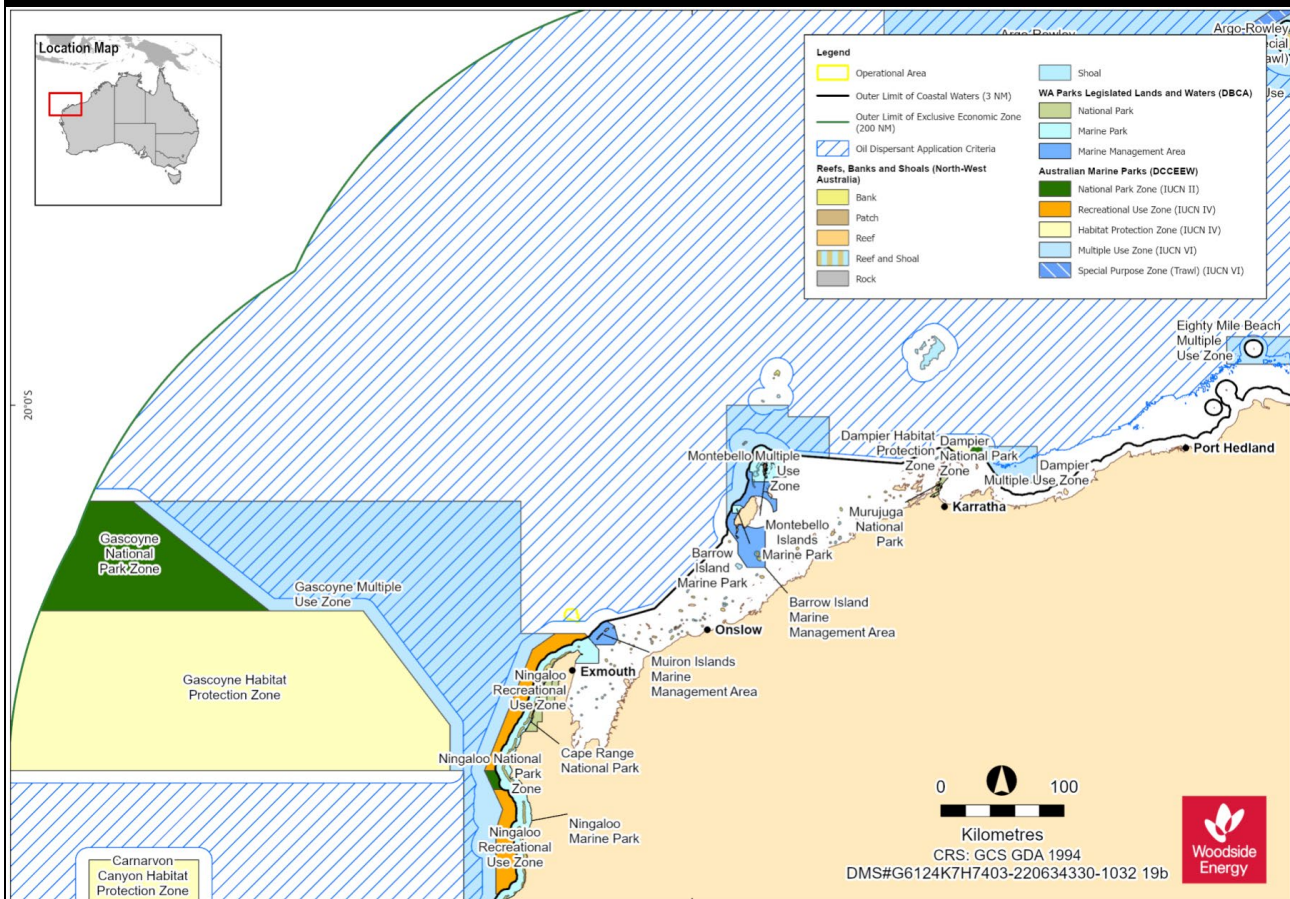
DISPERSANTS ARE PRE-APPROVED UNDER THE ENVIRONMENT PLAN FOR USE IN THE BLUE STRIPED ZONE ONLY. OSCA APPROVED OR TRANSITIONAL DISPERSANTS ARE PRE-APPROVED FOR USE.

The shape file for the approved dispersant zone of application (ZoA) is saved in Woodside's Geospatial Corporate Geodatabase and adheres to the following criteria:

- 10km from Commonwealth Marine Parks (excluding 'Multiple Use Zones')
- 10km from State Marine Parks
- 10km from Heritage List areas
- >20m water depth
- 4km from State Waters
- Within the Mainland Australian EEZ
- Avoiding sensitive reefs and shoals

The **SURFACE DISPERSANT OPERATIONAL PLAN** should be used to mobilise dispersant operations immediately – [Surface Dispersants Operational Plan](#).

PRE-APPROVED DISPERSANT ZONE



Current dispersant volumes available should be checked in the following document:

[Oil Spill Preparedness - Dispersant Stockpiles Database](#)

APPENDIX A – CREDIBLE SPILL SCENARIOS AND HYDROCARBON INFORMATION

Table A - 1: Credible spill scenarios and hydrocarbon information

Scenario	Product	Volume	Residue	Weathering rate		Suggested ADIOS2 Analogue ²
CS-01 (WCCS) An uncontrolled subsea LOWC event discharging crude oil at the Stickle-4H1 well site	Pyrenees Crude ³	29,618 m ³	54.5% or 16,112 m ³	12 hours (BP < 180 °C)	0.6%	<i>Martin Linge Crude</i>
				24 hours (180 °C < BP < 265 °C)	8.5%	
				Several days (265 °C < BP < 380 °C)	36.1%	
CS-02 Surface release from a cargo tank caused by a vessel collision with the FPSO	Pyrenees Crude	14,600 m ³	54.5% or 7942.4 m ³	12 hours (BP < 180 °C)	0.6%	<i>Martin Linge Crude</i>
				24 hours (180 °C < BP < 265 °C)	8.5%	
				Several days (265 °C < BP < 380 °C)	36.1%	
CS-03 Surface release from ruptured fuel tank due to vessel collision close to Crosby-3H1 well	MDO	330 m ³	5% or 16.5 m ³	12 hours (BP < 180 °C)		Marine Diesel (IKU)
				24 hours (180 °C < BP < 265 °C)		
				Several days (265 °C < BP < 380 °C)		

² Initial screening of possible ADIOS2 analogues considered hydrocarbons with similar APIs. Suggested selection is based on the closest distillation cut to the Woodside hydrocarbon. Only hydrocarbons with >380°C distillation cuts were included in selection process.

³ Characteristics of all hydrocarbons returned to the Pyrenees FPSO (Ravensworth, Crosby and Stickle crude) are very similar and therefore considered to have the same characteristics (including weathering) and, hereafter, are referred to as 'Pyrenees Crude'. Martin Linge Crude has been modelled as an appropriate analogue.

APPENDIX B – NOTIFICATION FORMS

Table B - 1: Notification forms

No.	Form Name	Link
1	Record of initial verbal notification to NOPSEMA template	Link
2	NOPSEMA Incident Report Form	[5]
3	Harmful Substances Report (POLREP – AMSA)	[11]
4	Marine Pollution Report (POLREP – DTMI)	[8]
5	AMOSOC Service Contract	[12]
6a	OSRL Initial Notification Form	[13]
6b	OSRL Mobilisation Activation Form	[13]
6c	OSRL Operational and Scientific Monitoring Service Mobilisation Form	[13]
7	RPS Response Oil Spill Trajectory Modelling Request	[15]
8	Aerial Surveillance Observer Log	Link
9	Tracking buoy deployment instructions	Link

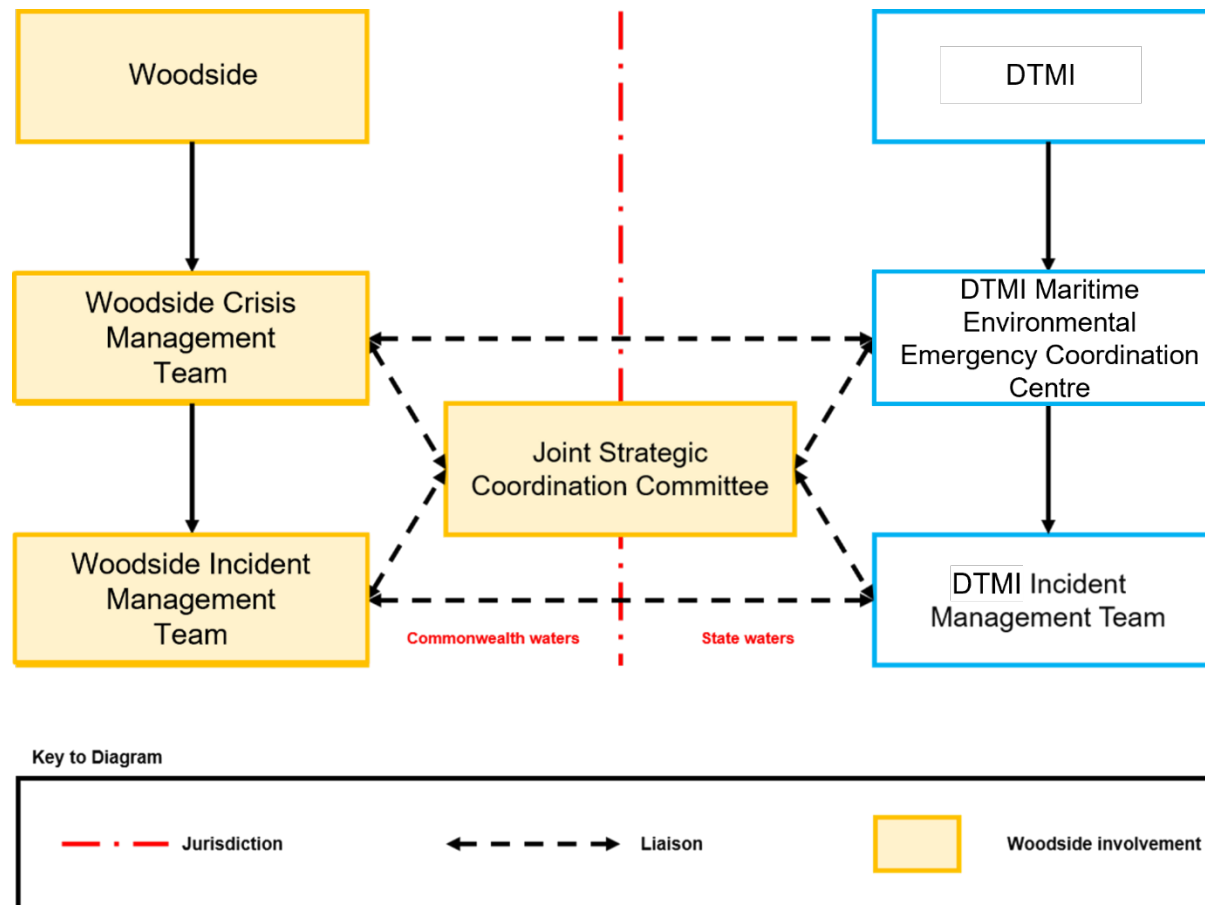
FORM 1 – RECORD OF INITIAL VERBAL NOTIFICATION TO NOPSEMA

NOPSEMA phone: [5]		
Date of call		
Time of call		
Call made by		
Call made to		
Information to be provided to NOPSEMA:		
Date and time of incident/ time caller became aware of incident		
Details of incident	1. Location	
	2. Title	
	3. Source	☐ Platform
		☐ Pipeline
		☐ FPSO
		☐ Exploration drilling
		☐ Well
		☐ Other (please specify)
	4. Hydrocarbon type	
	5. Estimated volume	
6. Has the discharge ceased?		
7. Fire, explosion or collision?		
8. Environment Plan(s)		
9. Other Details		
Actions taken to avoid or mitigate environmental impacts		
Corrective actions taken or proposed to stop, control or remedy the incident		
After the initial call is made to NOPSEMA, please send this record as soon as practicable to:		
NOPSEMA	[5]	
NOPTA	[6]	
DEMIRS	[7]	

APPENDIX C – SPILL ASSESSMENT QUESTIONS

What has happened?		
Date/time		
Spill source		
Spill cause		
Safety situation		
What is it?		
Oil type and name		
Oil properties	Specific gravity	
	Viscosity	
	Pour point	
	Asphaltenes	
	Wax content	
	Boiling point	
Where is it?		
Latitude and longitude		
Distance and bearing		
Affected area	☐ Offshore	
	☐ Subsea	
	☐ Shoreline	
	☐ Estuary	
	☐ Port	
	☐ Harbour	
	☐ Inland	
	☐ River	
	☐ Other (please detail):	
Water depth		
How big is it?		
Area		
Release type	☐ Instantaneous	Estimated volume:
	☐ Continuous release	Estimated release rate:
Where it is going?		
Metocean conditions		
Currents and tides		
What is in the way?		
Resources at risk		
Time until resource contact		
What's happening to it?		
Weathering processes		
Response actions underway		

APPENDIX D – COORDINATION STRUCTURE FOR A CONCURRENT HYDROCARBON SPILL IN BOTH COMMONWEALTH AND STATE WATERS/ SHORELINES⁴

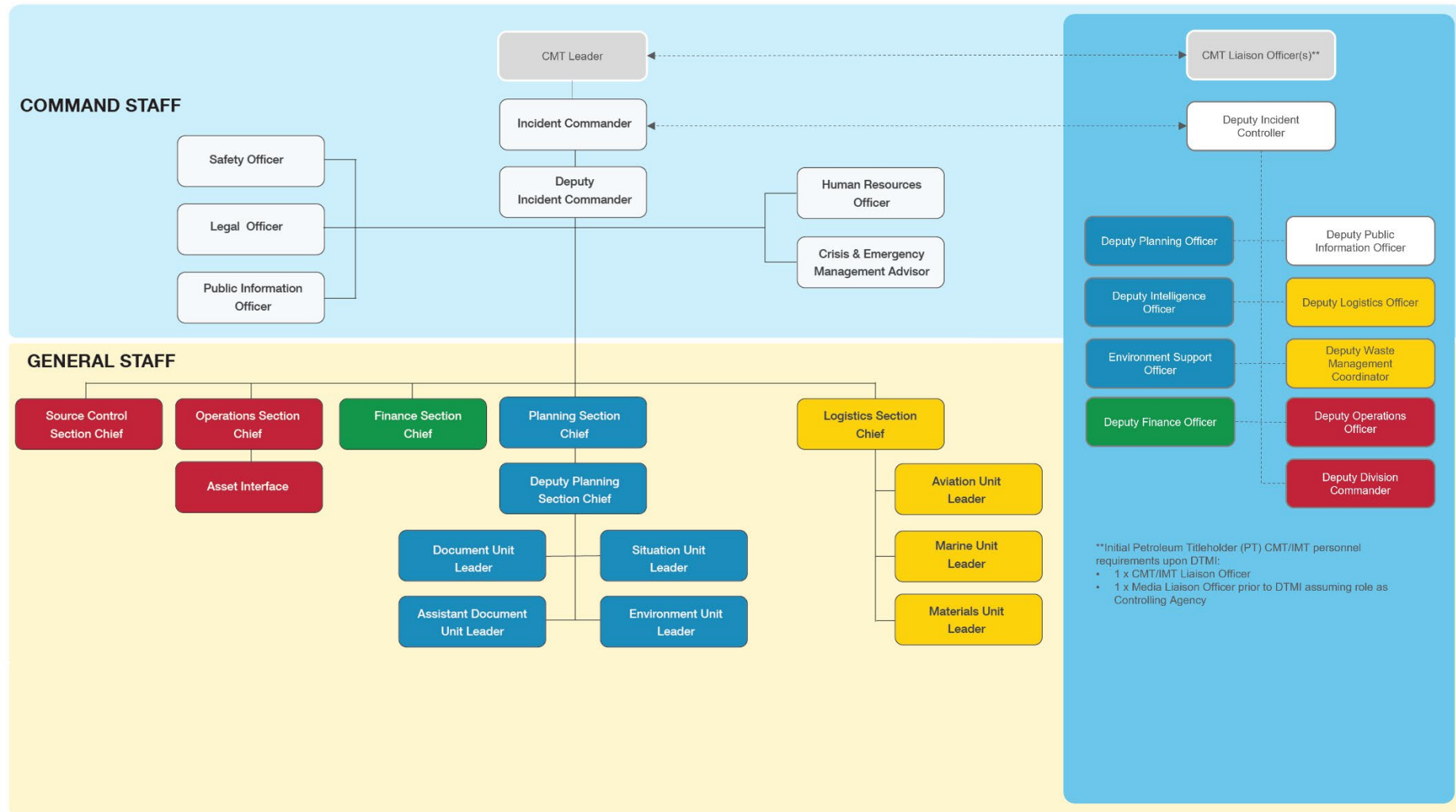


The Control Agency for a hydrocarbon spill in Commonwealth waters resulting from an offshore petroleum activity is Woodside (the Petroleum Titleholder). The Control Agency/ Hazard Management Agency (HMA) for a hydrocarbon spill in State waters/shorelines resulting from an offshore petroleum activity is DTMI. DTMI will appoint an Incident Controller and form a separate IMT to only manage the spill within State waters/shorelines.

⁴ Adapted from DTMI Offshore Petroleum Industry Guidance Note, Marine Oil Pollution: Response and Consultation Arrangements July 2020. Note: For full structure up to Commonwealth Cabinet/Minister refer to Marine Oil Pollution: Response and Consultation Arrangements Section 6.5, Figure 4.

APPENDIX E – WOODSIDE INCIDENT MANAGEMENT STRUCTURE

Woodside Incident Management Structure for Hydrocarbon Spill (including Woodside Liaison Officers Command Structure within DTMI IMT if required). Woodside's CIMT would operate from the Emergency Operations Centre (EOC) at the Woodside headquarters in Perth.



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

APPENDIX F – WOODSIDE LIAISON OFFICER RESOURCES TO DTMI

In the event that DTMI is required to establish an IMT, Woodside will make available an appropriate number of appropriately qualified persons to work within the DTMI IMT. In the event the Port Authority is the Control Agency within the Port Limits, Woodside will make available similar roles as requested.

It is an expectation that Woodside's nominated CMT Liaison Officer and the Deputy Incident Controller attend the DTMI Fremantle Incident Control Centre (ICC) as soon as possible after the formal request has been made by the State Marine Pollution Coordinator (SMPC), and that the remaining initial cohort will attend no later than 8 am on the day following the request being formally made to Woodside by the SMPC. For Woodside personnel designated to serve in DTMI's Forward Operating Base (FOB), it is expected that they arrive at the FOB no later than 24 hours from the formal request being made by the SMPC.

Area	Role	Woodside personnel ⁵	Key Duties	#
DTMI Maritime Environmental Emergency Coordination Centre (MEECC)	CMT Liaison Officer	CIMT Liaison	- Provide a direct liaison between the CMT and the MEECC. - Facilitate effective communications and coordination between the CIMT Leader and SMPC. - Offer advice to SMPC on matters pertaining to PT crisis management policies and procedures.	1
DTMI IMT Incident Control	Deputy Incident Controller	Deputy Incident Commander (Deputy IC)	- Provide a direct liaison between the PT IMT and DTMI IMT. - Facilitate effective communications and coordination between the PT IC and the DTMI IC. - Offer advice to the DTMI IC on matters pertaining to PT incident response policies and procedures. - Offer advice to the Safety Coordinator on matters pertaining to PT safety policies and procedures, particularly as they relate to PT employees or contractors operating under the control of the DTMI IMT.	1
DTMI IMT Intelligence	Deputy Intelligence Officer	Situation Unit Leader (Intelligence)	- As part of the Intelligence Team, assist the Intelligence Officer in the performance of their duties in relation to situation and awareness. - Facilitate the provision of relevant modelling and predictions from the PT IMT. - Assist in the interpretation of modelling and predictions originating from the PT IMT. - Facilitate the provision of relevant situation and awareness information originating from the DTMI IMT to the PT IMT. - Facilitate the provision of relevant mapping from the PT IMT. - Assist in the interpretation of mapping originating from the PT IMT. - Facilitate the provision of relevant mapping originating from the DTMI IMT to the PT IMT.	1
DTMI IMT Intelligence – Environment	Environment Support Officer	Deputy Environment Unit Leader	As part of the Intelligence Team, assist the Environment Coordinator in the performance of their duties in relation to the provision of environmental support into the planning process.	1

⁵ These positions would be mobilised, in consultation with DTMI, to align to the actual spill scenario. The selected roles and/or individual personnel would be subject to continued evaluation to ensure continued 'best fit'. For CIMT roster arrangements, contact the WCC. During a prolonged response, additional personnel may be sourced through internal resourcing and mutual Aid agreements such as the AMOSC Core Group via [12]

Area	Role	Woodside personnel ⁵	Key Duties	#
			- Assist in the interpretation of the PT OPEP and relevant TRP plans. - Facilitate in requesting, obtaining and interpreting environmental monitoring data originating from the PT IMT. - Facilitate the provision of relevant environmental information and advice originating from the DTMI IMT to the PT IMT.	
DTMI IMT Planning-Plans/ Resources	Deputy Planning Officer	Deputy Planning Section Chief	- As part of the Planning Team, assist the Planning Officer in the performance of their duties in relation to the interpretation of existing response plans and the development of incident action plans and related sub plans. - Facilitate the provision of relevant IAP and sub plans from the PT IMT. - Assist in the interpretation of the PT OPEP from the PT. - Assist in the interpretation of the PT IAP and sub plans from the PT IMT. - Facilitate the provision of relevant IAP and sub plans originating from the DTMI IMT to the PT IMT. - Assist in the interpretation of the PT existing resource plans. - Facilitate the provision of relevant components of the resource sub plan originating from the DTMI IMT to the PT IMT. (Note this individual must have intimate knowledge of the relevant PT OPEP and planning processes)	1
DTMI IMT Public Information-Media/ Community Engagement	Deputy Public Information Officer	Deputy Public Information Officer	- As part of the Public Information Team, provide a direct liaison between the PT Media team and DTMI IMT Media team. - Facilitate effective communications and coordination between the PT and DTMI media teams. - Assist in the release of joint media statements and conduct of joint media briefings. - Assist in the release of joint information and warnings through the DTMI Information and Warnings team. - Offer advice to the DTMI Media Coordinator on matters pertaining to PT media policies and procedures. - Facilitate effective communications and coordination between the PT and DTMI Community Liaison teams. - Assist in the conduct of joint community briefings and events. - Offer advice to the DTMI Community Liaison Coordinator on matters pertaining to the PT community liaison policies and procedures. - Facilitate the effective transfer of relevant information obtained from through the Contact Centre to the PT IMT.	1
DTMI IMT Logistics	Deputy Logistic Officer	Deputy Logistics Section Chief	- As part of the Logistics Team, assist the Logistics Officer in the performance of their duties in relation to the provision of supplies to sustain the response effort. - Facilitate the acquisition of appropriate supplies through the PTs existing OSRL, AMOSC and private contract arrangements.	1

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Area	Role	Woodside personnel ⁵	Key Duties	#
			Collects Request Forms from DTMI to action via PT IMT. (Note this individual must have intimate knowledge of the relevant PT logistics processes and contracts)	
DTMI IMT Finance-Accounts/ Financial Monitoring	Deputy Finance Officer	Deputy Finance Section Chief	- As part of the Finance Team, assist the Finance Officer in the performance of their duties in relation to the setting up and payment of accounts for those services acquired through the PTs existing OSRL, AMOSC and private contract arrangements. - Facilitate the communication of financial monitoring information to the PT to allow them to track the overall cost of the response. - Assist the Finance Officer in the tracking of financial commitments through the response, including the supply contracts commissioned directly by DTMI and to be charged back to the PT.	1
DTMI IMT Operations	Deputy Operations Officer	Deputy Operations Section Chief	- As part of the Operations Team, assist the Operations Officer in the performance of their duties in relation to the implementation and management of operational activities undertaken to resolve an incident. - Facilitate effective communications and coordination between the PT Operations Section and the DTMI Operations Section. - Offer advice to the DTMI Operations Officer on matters pertaining to PT incident response procedures and requirements. - Identify efficiencies and assist to resolve potential conflicts around resource allocation and simultaneous operations of PT and DTMI response efforts.	1
DTMI IMT Operations – Waste Management	Deputy Waste Management Coordinator	Deputy Waste Coordinator (Materials)	- As part of the Operations Team, assist the Waste Management Coordinator in the performance of their duties in relation to the provision of the management and disposal of waste collected in State waters. - Facilitate the disposal of waste through the PT's existing private contract arrangements related to waste management and in line with legislative and regulatory requirements. - Collects Request Forms from DTMI to action via PT IMT.	1
DTMI FOB Operations Command	Deputy Division Commander	FOB Deputy Incident Commander	- As part of the Field Operations Team, assist the Division Commander in the performance of their duties in relation to the oversight and coordination of field operational activities undertaken in line with the IMT Operations Section's direction. - Provide a direct liaison between the PT FOB and DTMI FOB. - Facilitate effective communications and coordination between the PT Division Commander and the DTMI Division Commander. - Offer advice to the DTMI Division Commander on matters pertaining to PT incident response policies and procedures. - Assist the Safety Coordinator deployed in the FOB in the performance of their duties, particularly as they relate to PT employees or contractors.	1

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Area	Role	Woodside personnel ⁵	Key Duties	#
			Offer advice to the Safety Coordinator deployed in the FOB on matters pertaining to PT safety policies and procedures.	
Total				11

APPENDIX G – DTMI LIAISON OFFICER RESOURCES TO WOODSIDE

Once DTMI activates a State waters/ shorelines IMT, DTMI will make available the following personnel to Woodside.

Area	DTMI Liaison Role	Personnel Sourced from:	Key Duties	#
Woodside CIMT	DTMI Liaison Officer (prior to DTMI assuming Controlling Agency)/ Deputy Incident Controller – State waters (after DTMI assumes Controlling Agency)	DTMI	- Facilitate effective communications between DTMI's SMPC/ Incident Controller and the Petroleum Titleholder's appointed CMT Leader / Incident Controller. - Provide enhanced situational awareness to DTMI of the incident and the potential impact on State waters. - Assist in the provision of support from DTMI to the Petroleum Titleholder. - Facilitate the provision technical advice from DTMI to the Petroleum Titleholder Incident Controller as required.	1
Woodside CIMT Public Information – Media	DTMI Media Liaison Officer	DTMI	- Provide a direct liaison between the PT Media team and DTMI IMT Media team. - Facilitate effective communications and coordination between the PT and DTMI media teams. - Assist in the release of joint media statements and conduct of joint media briefings. - Assist in the release of joint information and warnings through the DTMI Information & Warnings team. - Offer advice to the PT Media Coordinator on matters pertaining to DTMI and wider Government media policies and procedures.	1
Total DTMI Personnel Initial Requirement to Woodside				2

APPENDIX J: WOODSIDE MASTER EXISTING ENVIRONMENT



Description of the Existing Environment

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

1.	INTRODUCTION	10
1.1	Purpose	10
1.2	Scope	10
1.3	Review and Revision	10
1.4	Regional Context	10
2.	PHYSICAL ENVIRONMENT	13
2.1	Regional Context	13
2.2	Marine Systems of the North-west Marine Region (NWMR)	13
2.3	Meteorology and Oceanography	15
2.3.1	Browse.....	22
2.3.2	North West Shelf / Scarborough.....	22
2.3.3	North-west Cape	23
2.4	Physical Environment of NWMR	23
2.5	Air Quality	24
3.	MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE (EPBC ACT) ...	28
3.1	Summary of Matters of National Environmental Significance (MNES)	28
3.2	Part 13 Statutory Instruments for EPBC Act Listed Threatened and Migratory Species in the NWMR, South-west Marine Region (SWMR) and North Marine Region (NMR) .	32
4.	HABITAT AND BIOLOGICAL COMMUNITIES.....	41
4.1	Regional Context	41
4.2	Biological Productivity of NWMR	41
4.3	Planktonic Communities in the NWMR	42
4.3.1	Browse.....	42
4.3.2	North West Shelf / Scarborough.....	43
4.3.3	North-west Cape	43
4.4	Habitats and Biological Communities in the NWMR	43
4.4.1	Offshore Habitats and Biological Communities.....	43
4.4.2	Browse.....	44
4.4.3	North West Shelf / Scarborough.....	46
4.4.4	North-west Cape	48
4.4.5	Shoreline, Coastal Habitats and Biological Communities	49
5.	FISHES, SHARKS AND RAYS.....	58
5.1	Regional Context	58
5.2	Protected Sharks, Sawfishes and Rays in the NWMR	61
5.2.1	Sharks and Sawfishes	61
5.2.2	Rays	64
5.3	Fish, Shark and Sawfish Biological Important Areas in the NWMR	64
5.4	Fish Assemblages of the NWMR.....	68
5.4.1	Regional Context for Fish Assemblages of NWMR	68
5.4.2	Browse.....	69
5.4.3	North West Shelf / Scarborough.....	69
5.4.4	North-west Cape	69
6.	MARINE REPTILES	70
6.1	Regional Context for Marine Reptiles	70

6.2	Marine Turtles in the NMWR, SWMR and NMR Bioregions	72
6.2.1	Life Cycle Stages	72
6.2.2	Habitat Critical to Survival for Marine Turtles in the NWMR	73
6.3	Marine Turtle Biological Important Areas in the NWMR	78
6.4	Marine Turtle Summary for NWMR	88
6.4.1	Browse.....	88
6.4.2	North West Shelf / Scarborough.....	90
6.4.3	North-west Cape	92
6.5	Sea Snakes	92
6.6	Crocodiles.....	94
6.7	Water Monitor	94
7.	MARINE MAMMALS	95
7.1	Regional Context	95
7.2	Cetaceans in the NWMR.....	99
7.3	Dugongs in the NWMR	99
7.4	Pinnipeds in the NWMR	99
7.5	Marine Mammals in the NWMR.....	99
7.6	Habitat Critical to the Survival for Marine Mammals in the NWMR.....	118
7.7	Biological Important Areas in the NWMR.....	120
7.8	Marine Mammal Summary for the NWMR	133
7.8.1	Browse.....	133
7.8.2	North West Shelf / Scarborough.....	133
7.8.3	North-west Cape	133
8.	SEABIRDS AND MIGRATORY SHOREBIRDS OF THE NWMR	134
8.1	Regional Context	134
8.2	Seabirds in the NWMR	141
8.2.1	High-occurrence Key Seabird Species	141
8.2.2	Moderate-occurrence Key Seabird Species.....	149
8.2.3	Biologically Important Areas for Seabirds in the NWMR	149
8.2.4	Seabird Summary for NWMR.....	156
8.3	Shorebirds	156
8.4	Other Marine Birds.....	170
9.	THREATENED AND MIGRATORY SPECIES SEASONAL PRESENCE	171
10.	KEY ECOLOGICAL FEATURES	175
11.	PROTECTED AREAS	191
11.1	Regional Context	191
11.2	World Heritage Properties.....	191
11.3	National and Commonwealth Heritage Places – Natural	191
11.4	Wetlands of International Importance (listed under the Ramsar Convention).....	191
11.5	Australian Marine Parks	191
11.5.1	North West Marine Parks Network	192
11.5.2	Indian Ocean Territory	208
11.5.3	South-west Marine Parks Network	210
11.5.4	North Marine Park Network.....	226
11.6	Threatened Ecological Communities.....	235
11.7	Australian Whale Sanctuary.....	236
11.8	State Marine Parks and Reserves.....	236

11.9	Summary of Protected Areas Within the NWMR.....	237
11.10	Summary of Protected Areas Within the SWMR	257
11.11	Summary of Protected Areas Within the NMR	266
12.	SOCIO-ECONOMIC AND CULTURAL ENVIRONMENT	271
12.1	Cultural Values and Heritage	271
12.1.1	Native Title.....	271
12.1.2	Coastal First Nations Groups	272
12.1.3	Sea Country.....	276
12.1.4	Marine Parks.....	277
12.1.5	Indigenous Protected Areas (IPAs)	277
12.1.6	First Nations Cultural Heritage	283
12.1.7	Historic Sites of Significance	288
12.1.8	Historic Underwater Heritage	288
12.1.9	World, National and Commonwealth Listed Heritage Places.....	289
12.2	Socio-Economic Values	296
12.2.1	Commercial Fisheries – Commonwealth and State.....	296
12.2.2	Fish Habitat Protection Areas.....	324
12.2.3	Aquaculture	327
12.3	Fisheries – Traditional.....	328
12.4	Tourism and Recreation.....	329
12.4.1	Gascoyne Region	329
12.4.2	Pilbara Region	330
12.4.3	Kimberley Region	330
12.5	Shipping	330
12.6	Petroleum Basins.....	331
12.7	Defence	331
13.	REFERENCES	333
APPENDIX A	PROTECTED MATTER SEARCH REPORTS FOR NWMR, SWMR AND NMR	374
APPENDIX B	SUPPORTING FIGURES FOR SECTION 2.3 METEOROLOGY AND OCEANOGRAPHY	686

TABLE OF FIGURES

Figure 1-1: Marine bioregions: NWMR, SWMR, NMR and South-East (as defined under the EPBC Act, refer to (DCCEEW, 2021b)	12
Figure 2-1: The marine systems of the NWMR (data source: DEWHA, 2007a)	14
Figure 2-2: Average daily maximum air temperature for land surface adjacent to NWMR: (a) summer (northern wet season) and (b) winter (northern dry season)	17
Figure 2-3: Average monthly surface wind direction and velocity for NWMR: (a) summer (February, northern wet season) and (b) winter (July, northern dry season)	18
Figure 2-4: Tropical cyclone annual occurrence and cyclone tracks for NWMR	19
Figure 2-5: Ocean surface temperature for NWMR: (a) summer (February, northern wet season) and (b) winter (July, northern dry season) (data source: Locarnini et al., 2018 in World Ocean Atlas, 2018).....	20
Figure 2-6: Ocean surface and sub-surface currents of the NWMR and wider region (data source: adopted from Wijeratne et al., 2018)	21
Figure 2-7: The eight Integrated Marine and Coastal Regionalisation of Australia (IMCRA) v4.0 provincial bioregions of the NWMR (GA, 2024).....	25
Figure 2-8: Bathymetry of the NWMR (data source: Geoscience Australia)	26
Figure 2-9: Overview of the seabed sediments of the NWMR (data source: Baker et al., 2008)	27
Figure 4-1: The position of Scott Reef, Ashmore and the Rowley Shoals off North-western Australia and location of permanent long-term monitoring sites (source: Gilmour et al., 2023)	45
Figure 4-2: Habitat maps of Rankin Bank and Glomar Shoal (source: AIMS, 2014)	50
Figure 5-1: Whale shark biologically important areas (BIAs) for the NWMR and tagged whale shark satellite tracks (data source for BIAs: DCCEEW, 2024b)	66
Figure 5-2: Sawfish BIAs for the NWMR (data source: DCCEEW, 2024b)	67
Figure 6-1: Generalised life cycle of marine turtles (Commonwealth of Australia, 2017)	73
Figure 6-2: Marine turtle species habitat critical to survival (nesting beaches and internesting buffers) for the NWMR (data source: DCCEEW, 2024b)	77
Figure 6-3: Green turtle BIAs within the NWMR (data source: DCCEEW, 2024b)	84
Figure 6-4: Hawksbill turtle BIAs within the NWMR (data source: DCCEEW, 2024b)	85
Figure 6-5: Flatback turtle BIAs within the NWMR (data source: DCCEEW, 2024b)	86
Figure 6-6: Loggerhead turtle BIAs within the NWMR (data source: DCCEEW, 2024b)	87
Figure 7-1: Habitat critical to the survival for the southern right whale in the NWMR (DCCEEW, 2024a)	119
Figure 7-2: Humpback whale BIAs for the NWMR (data source: DCCEEW, 2024b)	124
Figure 7-3: Humpback whale tagged tracks for north and south bound migrations (AMMC as published in Double et al. 2010 and 2012)	125
Figure 7-4: Pygmy blue whale BIAs for the NWMR and tagged whale tracks for northbound migration (data source for BIAs: DCCEEW, 2024b)	126
Figure 7-5: Southern right whale BIAs for the NWMR; migration and reproduction BIAs along the coast extend to 3 NM (data source: DCCEEW, 2024b)	127
Figure 7-6: Australian snubfin dolphin BIAs for the NWMR (data source: DCCEEW, 2024b)	128
Figure 7-7: Indo-Pacific humpback dolphin BIAs for the NWMR (data source: DCCEEW, 2024b)	129
Figure 7-8: Indo-Pacific spotted bottlenose dolphin BIAs for the NWMR (data source: DCCEEW, 2024b)	130
Figure 7-9: Dugong BIAs for the NWMR (data source: DCCEEW, 2024b)	131
Figure 7-10: Australian sea lion BIAs in the northern extent of the SWMR closest to the NWMR (data source: DCCEEW, 2024b)	132
Figure 8-1: Wedge-tailed shearwater BIAs for the NWMR (data source: DCCEEW, 2024b)	151
Figure 8-2: Tern species BIAs for the NWMR (data source: DCCEEW, 2024b)	152
Figure 8-3: Red-footed and brown booby BIAs for the NWMR (data source: DCCEEW, 2024b) .	153
Figure 8-4: Greater and lesser frigatebird BIAs for the NWMR (data source: DCCEEW, 2024b).	154

Figure 8-5: White-tailed tropicbird BIAs for the NWMR (data source: DCCEEW, 2024b)	155
Figure 10-1: KEFs within the NWMR (data source: DCCEEW, 2024d)	183
Figure 10-2: KEFs within the SWMR (data source: DCCEEW, 2024d).....	187
Figure 10-3: KEFs within the NMR (data source: DCCEEW, 2024d).....	190
Figure 11-1: Commonwealth and State Marine Protected Areas for the NWMR and Indian Ocean Territories (data source: GA, 2024)	256
Figure 11-2: Commonwealth and State Marine Protected Areas for the SWMR (data source: GA, 2024)	265
Figure 11-3: Commonwealth and State Marine Protected Areas within the NMR (data source: GA, 2024)	270
Figure 12-1: Coastal Native Title Claims / Determinations and Indigenous Land Use Agreements (ILUAs) in the NWMR (data source: DPLH, 2024).....	273
Figure 12-2: Coastal Native Title Claims / Determinations and ILUAs in the NMR (data source: DPLH, 2024)	274
Figure 12-3: Coastal Native Title Claims / Determinations and ILUAs in the SWMR (data source: DPLH, 2024)	275
Figure 12-4: IPAs in Australia (data source: DCCEEW and NIAA, 2024)	282
Figure 12-5: Indicative bathymetry of the ancient submerged landscape (data source: GA, 2024; DCCEEW, 2024d)	287
Figure 12-6: Shipwrecks in the NWMR (data source: WAM, 2018 and AODN, 2008).....	293
Figure 12-7: Shipwrecks in the NMR (data source: WAM, 2018 and AODN, 2008)	294
Figure 12-8: Shipwrecks in the SWMR (data source: WAM, 2018 and AODN, 2008).....	295
Figure 12-9: MOU 74 Box: operations of Indonesian traditional fishermen in areas of the Australian Fishing Zone and Continental Shelf – 1974.....	329

TABLE OF TABLES

Table 1-1: Description of the marine bioregions	11
Table 2-1: Key physical characteristics of the NWMR, SWMR and NMR	13
Table 2-2: Key characteristics of the marine systems of the NWMR	15
Table 2-3: NWMR climate and oceanography summary	16
Table 2-4: Summary meteorology and oceanography for Browse (refer to Appendix B for supporting metocean figures and data sources).....	22
Table 2-5: Summary meteorology and oceanography for the North West Shelf and Scarborough (refer to Appendix B for supporting metocean figures and data sources)	22
Table 2-6: Summary meteorology and oceanography for the North-west Cape (refer to Appendix B for supporting metocean figures).....	23
Table 3-1: Summary of MNES identified by the EPBC Act Protected Matters Search Tool (PMST) within and potentially occurring within the NWMR	29
Table 3-2: Summary of MNES identified by the EPBC Act PMST within and potentially occurring within the SWMR	30
Table 3-3: Summary of MNES identified by the EPBC Act PMST within and potentially occurring within the NMR	31
Table 3-4: Summary of EPBC Act threatened and migratory species to be considered for impact or risk evaluation for Woodside operations.....	38
Table 4-1: Habitats and biological communities within the NWMR	51
Table 4-2: Habitats within the SWMR.....	54
Table 4-3: Habitats and biological communities within the NMR	56
Table 5-1: Fish species (including sharks and rays) identified by the EPBC Act PMST that may occur within the NWMR.....	59
Table 5-2: EPBC Act listed Conservation Dependent species of fishes and sharks that may occur in the NWMR, NMR and SWMR	60
Table 5-3: Information on the EPBC-listed threatened shark, fish and sawfish species that may or are known to occur within the NWMR	61
Table 5-4: Information on migratory ray species within the NWMR	64
Table 5-5: Fish, whale shark and sawfish BIAs within the NWMR (source: AMSIS, accessed 14/08/2024).....	65
Table 6-1: Marine reptile species identified by the EPBC Act PMST that may occur within or utilise habitats in the NWMR for key life cycle stages.....	71
Table 6-2: Genetic stock, habitat critical to survival and key life cycle stage seasonality of the four species of marine turtles within the NWMR	74
Table 6-3: Marine turtle BIAs within the NWMR	79
Table 6-4: Marine turtle key information for Browse activity area.....	89
Table 6-5: Marine turtle key information for NWS / Scarborough activity area	91
Table 6-6: Marine turtle key information for North-west Cape activity area.....	92
Table 6-7: Information on threatened sea snake species within the NWMR	94
Table 7-1: Marine mammal species identified by the EPBC Act PMST that may occur within the NWMR	96
Table 7-2: Information on the threatened/migratory marine mammal species within the NWMR ..	108
Table 7-3: Marine mammal BIAs within the NWMR.....	121
Table 8-1: High and moderate occurrence seabird and migratory shorebird species (threatened/migratory/marine) identified by the EPBC Act PMST and NWMR Seabird and Shorebird Existing Knowledge and Threats report as potentially occurring within the NWMR	135
Table 8-2: Species summary for moderate occurrence pelagic and nearshore seabird species within the NWMR	149
Table 8-3: Seabird BIAs within the NWMR (source: AMSIS, 2024 [accessed on 12/08/24]).....	150
Table 8-4: Species summary for high and selected moderate occurrence key shorebird species	158
Table 8-5: Species summary for moderate occurrence key shorebird species	169
Table 8-6: Species summary for high occurrence key other marine bird species	170

Table 9-1: Seasonal sensitivity of key threatened and migratory species in the NWMR	171
Table 10-1: Key ecological features (KEF) within the NWMR.....	176
Table 10-2: KEF within the SWMR.....	184
Table 10-3: KEF within the NMR.....	188
Table 11-1: Summary of Commonwealth Australian Marine Parks (AMPs) in the North West Marine Park Network	193
Table 11-2: Summary of Commonwealth marine parks within Indian Ocean territories	209
Table 11-3: Summary of Commonwealth AMPs for the South West Marine Park Network.....	210
Table 11-4: Summary of Commonwealth AMPs for the North Marine Park Network	226
Table 11-5: Summary of threatened ecological communities within the NWMR, NMR and SWMR	235
Table 11-6: Protected areas within the NWMR	237
Table 11-7: Protected areas within the SWMR.....	257
Table 11-8: Protected Areas within the NMR	266
Table 12-1: Commonly identified Sea Country species and habitats	277
Table 12-2: Intangible heritage values associated with Sea Country.....	283
Table 12-3: Heritage Places (Indigenous and historic) within the NWMR	290
Table 12-4: Heritage Places (Indigenous and historic) within the NMR	291
Table 12-5: Heritage Places (Indigenous and historic) within the SWMR	291
Table 12-6: Commonwealth and State managed fisheries	297

1. INTRODUCTION

1.1 Purpose

This document applies, where indicated in the relevant Environment Plan (EP), to Woodside Energy Ltd. (Woodside) activities and operations.

1.2 Scope

This document describes the existing environment within the Woodside areas of activity located in Commonwealth waters off north-western Western Australia (WA), with a focus on the North-west Marine Region (NWMR) (Figure 1-1). This document includes details of the particular and relevant values and sensitivities of the environment as required by the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth) (OPGGS (E) Regulations) to inform the impact and risk evaluation of Woodside's activities within the NWMR. Furthermore, the key values of the South-west Marine Region (SWMR) and the North Marine Region (NMR) are summarised to encompass areas outside the NWMR. This is with reference to the environment that may be affected (EMBA), as defined and described in individual EPs, for unplanned hydrocarbon spill risks. Additional information appropriate to the nature and scale of the impacts and risks of activities that may interact with the environment will be used to further inform impact and risk assessments and be included in the Description of the Existing Environment of individual EPs.

This document is informed by a variety of resources that includes: a search of the Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool (PMST) for the marine bioregions (NWMR, SWMR and NMR) and the three PMST reports provided in Appendix A; State (WA)/ Commonwealth Marine Park Management Plans, the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) Species Profile and Threats Database (SPRAT), EPBC Act Part 13 statutory instruments (recovery plans, conservation advices and wildlife conservation plans for listed threatened and migratory species); and peer reviewed scientific publications, as well as Woodside and Joint Venture (JV) funded studies and other titleholder funded study findings available in the public domain.

1.3 Review and Revision

The information presented in this document is reviewed and updated on at least a five-year basis. Key updates are captured in a 'change register'. Material risk may trigger updates within the five-year review period, as per the OPGGS (E) Regulations. Key updates may include but are not limited to the status of EPBC Act listed species, Part 13 Instruments, policies and guidelines, key advice from external stakeholders and recently published scientific literature.

1.4 Regional Context

Where relevant, the physical, biological and social environments within the areas of interest are discussed with reference to the three marine bioregions of Australia: North-west Marine Region (NWMR), South-west Marine Region (SWMR) and North Marine Region (NMR). The Marine Bioregional Plans has been prepared under section 176 of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)¹ (Table 1-1). The NWMR is the focal marine bioregion for the Woodside Description of the Existing Environment as this is currently the location of most of Woodside's activities.

¹ <https://www.dcceew.gov.au/environment/marine/marine-bioregional-plans> (accessed:04/08/2024)

Table 1-1: Description of the marine bioregions

Marine Bioregion	Description
North-west (DSEWPAC, 2012a)	The NWMR includes all Commonwealth waters (from three nautical miles (NM) from the Territorial Sea Baseline to the 200 NM Exclusive Economic Zone (EEZ) boundary) extending from the WA/Northern Territory border to Kalbarri, south of Shark Bay in WA, covering an area of approximately 1.07 million km ² and includes extensive areas of shallower waters on the continental shelf, as well as deep areas of abyssal plain where water depths are 5000 m or greater.
South-west (DSEWPAC, 2012b)	The SWMR comprises Commonwealth waters from the eastern end of Kangaroo Island in South Australia to Shark Bay in WA. The region spans approximately 1.3 million km ² of temperate and subtropical waters and abuts the coastal waters of SA and WA.
North (DSEWPAC, 2012c)	The NMR comprises Commonwealth waters from West Cape York Peninsula to the NT/WA border). The region covers approximately 625,689 km ² of tropical waters in the Gulf of Carpentaria and Arafura and Timor seas, and abuts the coastal waters of Queensland and the NT.

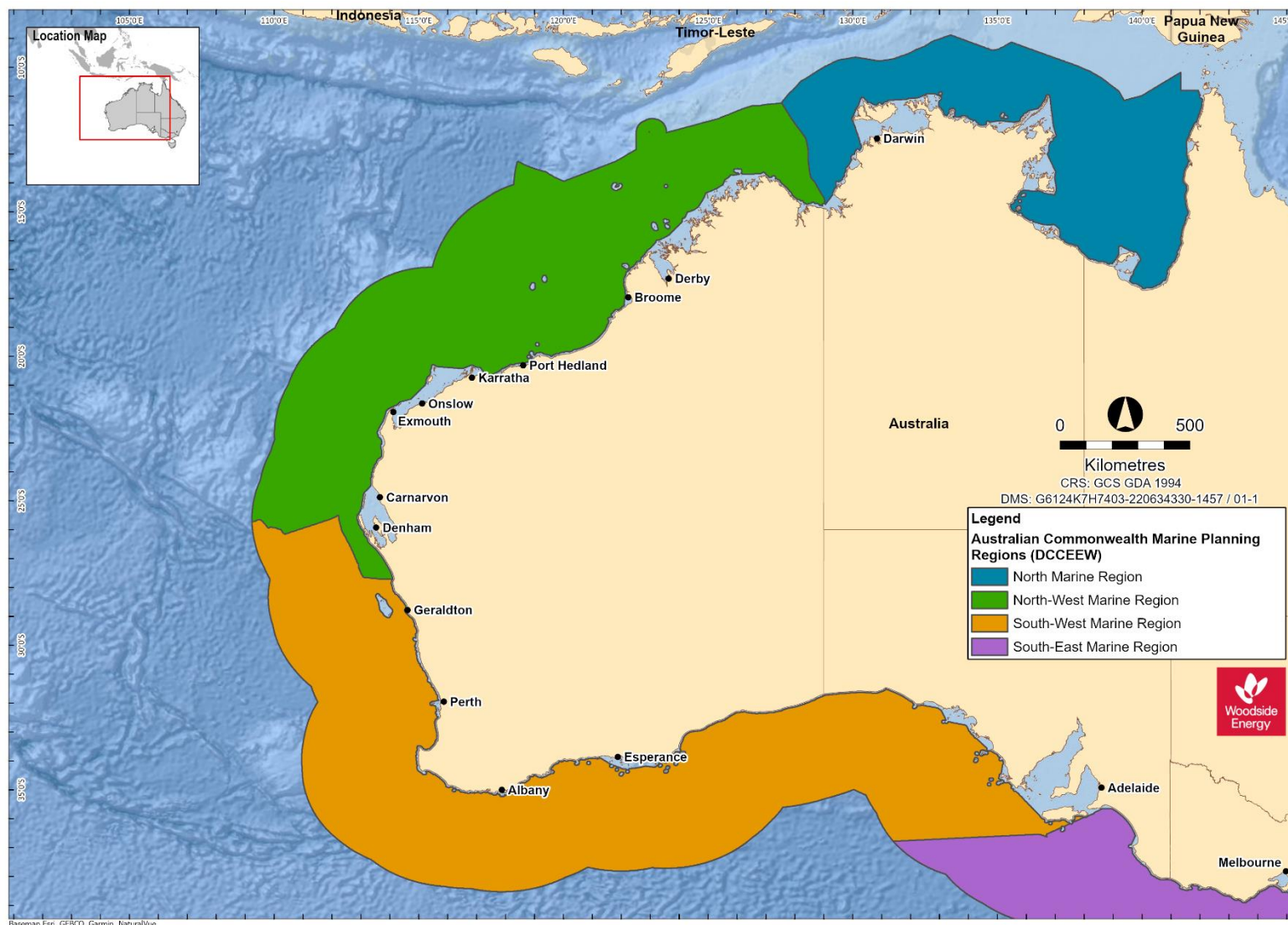


Figure 1-1: Marine bioregions: NWMR, SWMR, NMR and South-East (as defined under the EPBC Act, refer to (DCCEEW, 2021b))

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

2. PHYSICAL ENVIRONMENT

2.1 Regional Context

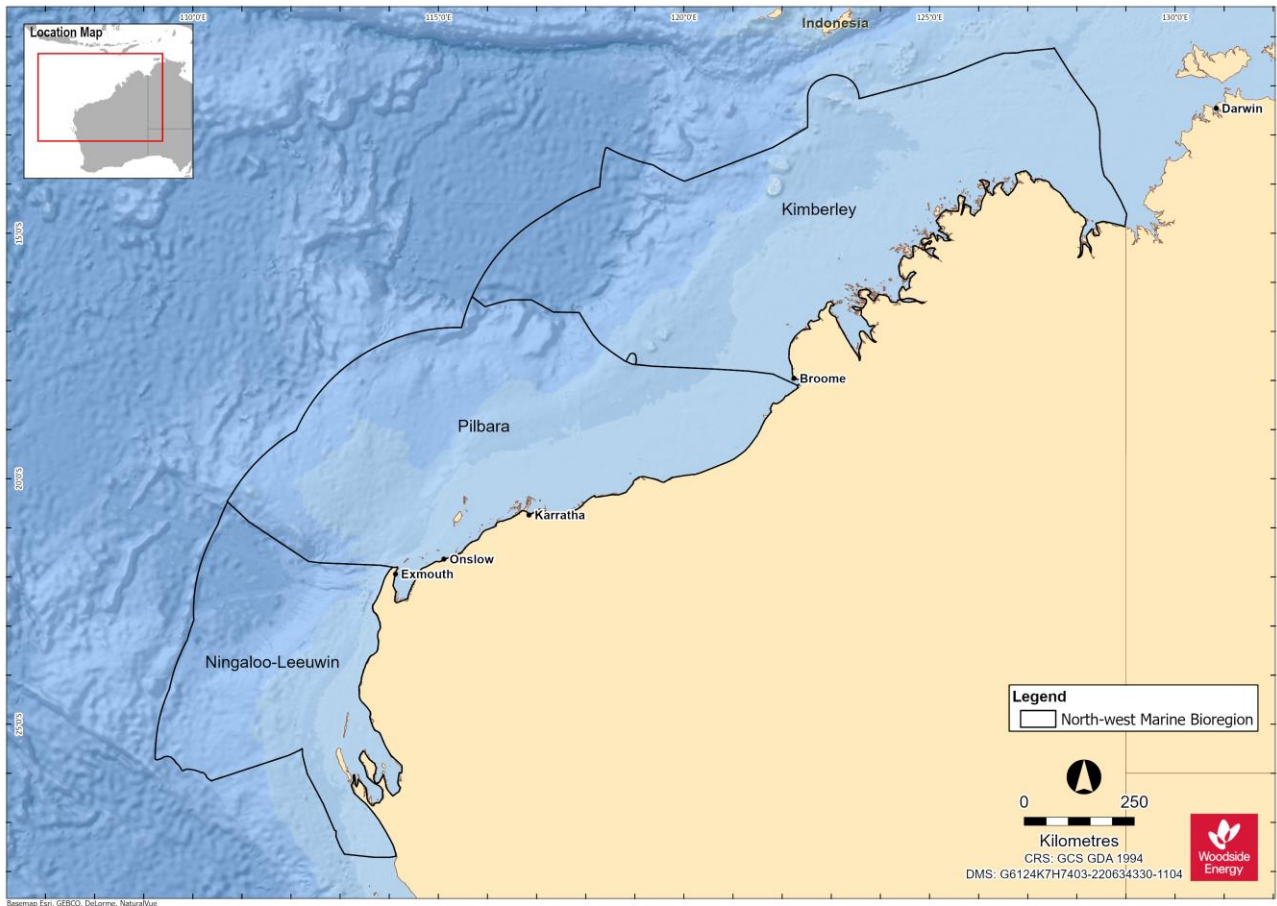
The key physical characteristics of the NWMR, SWMR and NMR are presented in Table 2-1. The remainder of this section then focuses entirely on the NWMR.

Table 2-1: Key physical characteristics of the NWMR, SWMR and NMR

Bioregion	Key Characteristics
North-west Marine Region	The NWMR experiences a tropical monsoonal climate towards the northern extent of the region, transitioning to tropical arid and subtropical arid within the central and southern areas of the region (DSEWPAC, 2012a).
	The NWMR is part of the Indo-Australian Basin, the ocean region between the north-west coast of Australia and the Indonesian islands of Java and Sumatra. Dominant currents in the Region include: the South Equatorial Current, the Indonesian Throughflow, the Eastern Gyral Current, and the Leeuwin Current (DEWHA, 2007a).
	The seafloor of the NWMR consists of four general feature types: continental shelf; continental slope; continental rise; and abyssal plain and is distinguished by a range of topographic features including canyons, plateaus, terraces, ridges, reefs, and banks and shoals.
South-west Marine Region	The SWMR contains both subtropical and temperate climates, with overall light climatic cycles.
	The SWMR experiences complex and unusual oceanographic patterns, driven largely by the Leeuwin Current and its associated currents that have a significant influence on biodiversity distribution and abundance.
	The major seafloor features of the SWMR include a narrow continental shelf on the West coast to the waters off South-west WA, and a wide continental shelf dominated by sandy carbonate sediments of marine origin in the Great Australian Bight. The region also contains a steep, muddy continental slope, many canyons and large tracts of abyssal plains (DSEWPAC, 2012b).
North Marine Region	The NMR experiences a tropical monsoonal climate with complex weather cycles, including high temperatures and heavy seasonal yet variable rainfall and cyclones, which can be both destructive (loss of seagrass and mangroves) and constructive (mobilisation of sediment into coastal habitats).
	The NMR comprises Commonwealth waters from West Cape York Peninsula to the NT–WA border, covering tropical waters in the Gulf of Carpentaria and Arafura and Timor seas. Currents in the NMR are driven largely by strong winds and tides, with only minor influences from oceanographic currents such as the Indonesian Throughflow and the South Equatorial Current (DSEWPAC, 2012c).
	The seafloor of the NMR consists mainly of a wide continental shelf, as well as other geomorphological features such as shoals, banks, terraces, valleys, shallow canyons and limestone pinnacles.

2.2 Marine Systems of the North-west Marine Region (NWMR)

The NWMR is divided into three large scale ecological marine systems on the basis of the influence of major ocean currents, seafloor features and eco-physical processes (e.g. climate, tides, freshwater inflow) upon the Region (DSEWPAC, 2012a). The three large scale marine systems approximate the Woodside activity areas within the NWMR (Figure 2-1). The key characteristics of each marine system are outlined in Table 2-2.



Note: Woodside areas align with the marine systems as described in DEWHA (2007a)

Figure 2-1: The marine systems of the NWMR (data source: DEWHA, 2007a)

Table 2-2: Key characteristics of the marine systems of the NWMR

Marine System	Woodside Activity Area	Key Characteristics
Kimberley	Browse	Tropical monsoonal climate Strong influence from Indonesian Throughflow Predominantly tropical Indo-Pacific species Subject to episodic offshore cyclonic activity, rarely crossing the coast Large tidal regimes Freshwater input from terrestrial monsoonal run-off Turbid coastal waters (i.e. light limited systems) Dominated by shelf environments Predominantly hard substrates in inner to mid-shelf environments Includes a number of shelf-edge atolls (i.e. Scott Reef, Rowley Shoals)
Pilbara	North West Shelf (NWS) / Scarborough	Tropical arid climate Transition between Indonesian Throughflow and Leeuwin Current dominated areas Predominantly tropical species High cyclone activity with frequent crossing of the coast Transitional tidal zone Internal tide activity Large areas of shelf and slope Dry coast with ephemeral freshwater inputs
Ningaloo-Leeuwin	North-west Cape	Subtropical arid climate Leeuwin Current consolidates Transitional tropical/temperate faunal area Higher water clarity in near-shore and offshore environments Narrow shelf and slope Marginal tidal range Seasonal wind forcing more dominant influence on marine environment

2.3 Meteorology and Oceanography

This section describes the general meteorological conditions and oceanography for the NWMR and provides further detail for the three Woodside activity areas (Table 2-3). The NWMR is influenced by a complex system of ocean currents that change between seasons and between years, which generally result in its surface waters being warm and nutrient-poor, and of low salinity (DEWHA, 2007a). The mix of bathymetric features, complex topography and oceanography across the whole North-west marine environment has created and supports a globally important marine biodiversity hotspot (Wilson, 2013). The purpose of Table 2-3 is to provide high-level physical characteristics of the marine environment within and across the NWMR. This subsection does not describe warming trends or discuss forecast trajectories for the NWMR.

Table 2-3: NWMR climate and oceanography summary

Receptor	Description
Meteorology	
Seasonal patterns	The NWMR associated land mass of the Australian continent is characterised as a hot and humid summer climate zone. The broader NWMR experiences variations of a tropical or monsoon climate. In the far north-west (Kimberley), there is a hot summer season from December to March and a milder winter season between April and November. The Pilbara area is described as having a tropical arid climate with high cyclone activity (DEWHA, 2007a). The Pilbara and North-west Cape has a hot summer season from October to April and a milder winter season between May and September with transition periods between the summer and winter regimes.
Air temperature and rainfall	In summer (between September and March), maximum daily temperatures range from 18°C to 36°C. During winter (May to July), mean daily temperatures range from 12°C to 30°C (BOM, 2023c), refer to Figure 2-2. Rainfall in the region typically occurs during the summer, with highest falls observed late in the season. This is often associated with the passage of tropical low-pressure systems and cyclones.
Wind	Wind patterns in north-west WA are dictated by the seasonal movement of atmospheric pressure systems. During summer, high-pressure cells produce prevailing winds from the north-west and south-west, which vary between 10 and 13 ms ⁻¹ . During winter, high-pressure cells over central Australia produce north-easterly to south-easterly winds with average speeds of between 6 and 8 ms ⁻¹ . Refer to Figure 2-3.
Tropical cyclones	The NWS and Pilbara coast (within the NWMR) experiences more cyclonic activity than any other region of the Australian mainland coast (BOM, 2021a). Tropical cyclone activity typically occurs between November and April and is most frequent in the region during December to March (i.e. considered the peak period), with an average of about one cyclone per month (BOM, 2021a). Refer to Figure 2-4.
Oceanography	
Ocean temperature	Waters in NWMR are tropical year-round, with sea surface temperature in open shelf waters reaching ~26°C in summer and dropping to ~22°C in winter. Nearshore temperatures (as recorded for the NWS area) fluctuate more widely on an annual basis from ~<23°C in winter to ~31°C in summer (Hallenberger et al., 2022), indicative of present-day sea surface temperatures, acquired from the CSIRO Oceans and Atmosphere database. Refer to Figure 2-5, for the seasonal variation across and within the NWMR.
Currents	The major surface currents influencing north-west WA flow towards the poles and include the Indonesian Throughflow, the Leeuwin Current, the South Equatorial Current, and the Eastern Gyral Current. The Ningaloo Current, the Holloway Current, the Shark Bay Outflow, and the Capes Current are seasonal surface currents in the region. Below these surface currents are several subsurface currents, the most important of which are the Leeuwin Undercurrent and the West Australian Current. These subsurface currents flow towards the equator in the opposite direction to surface currents (DEWHA, 2007a). Refer to Figure 2-6. The offshore waters of the NWMR are characterised by surface and subsurface boundary currents that flow along the continental shelf/slope and are enhanced through inflows from the ocean basins and are an important conduit for the poleward heat and mass transport along the West coast (Wijeratne et al., 2018). Local physical oceanography is strongly influenced by the large-scale water movements of the Indonesian Throughflow (Liu et al., 2015; Sutton et al., 2019). Typically, a warm and well-mixed oligotrophic surface layer, and a cooler and more nutrient rich deeper water layer (Menezes et al., 2013).
Waves	Sea surface waves within the NWMR generally reflect the direction of the synoptic winds and flow predominately from the South-west in the summer and East in winter (Pearce et al., 2003). The NWS within the NWMR is a known area of internal wave generation. Both internal tides and internal waves are thought to be more prevalent during summer months due to the increased stratification of the water column (DEWHA, 2007a). Along the continental slope of the NWMR, strong internal waves and interaction between semi-diurnal tidal currents and seabed topographic features facilitates upwelling events and localised productivity events (Holloway, 2001).

Receptor	Description
Tides	Tides on the NWS (NWMR) increase as the water moves from deep towards the shallower coast. The highest offshore tides are experienced at the border of the Browse and Canning basins. The smallest tides are experienced at the Exmouth Plateau, near the coast. Tides of the NWS (NWMR) are predominantly semi-diurnal (two highs and two lows each day), but with increasing importance of the diurnal (once per day) inequality at the southern and northern extremities of the NWS. The tide range—represented by the Mean Spring Range (MSR)—increases northwards along the coast from 1.4 m at North-west Cape (Point Murat) to 7.7 m at Broome, before decreasing again (apart from local amplification in King Sound and Collier Bay) to about 5 m off Cape Londonderry. The MSR then increases again through Joseph Bonaparte Gulf and on up 5.5 m at Darwin (RPS, 2016).

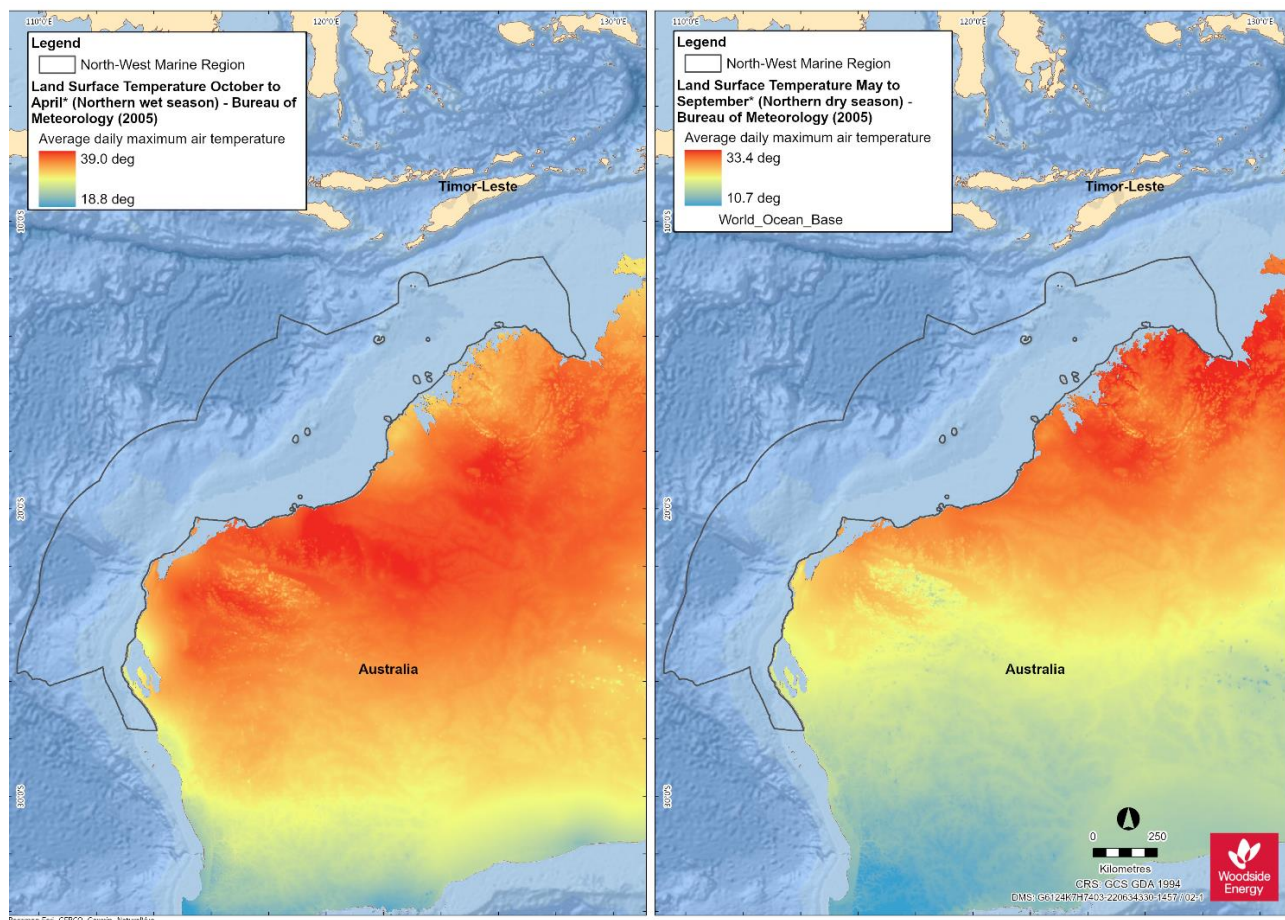


Figure 2-2: Average daily maximum air temperature for land surface adjacent to NWMR: (a) summer (northern wet season) and (b) winter (northern dry season)

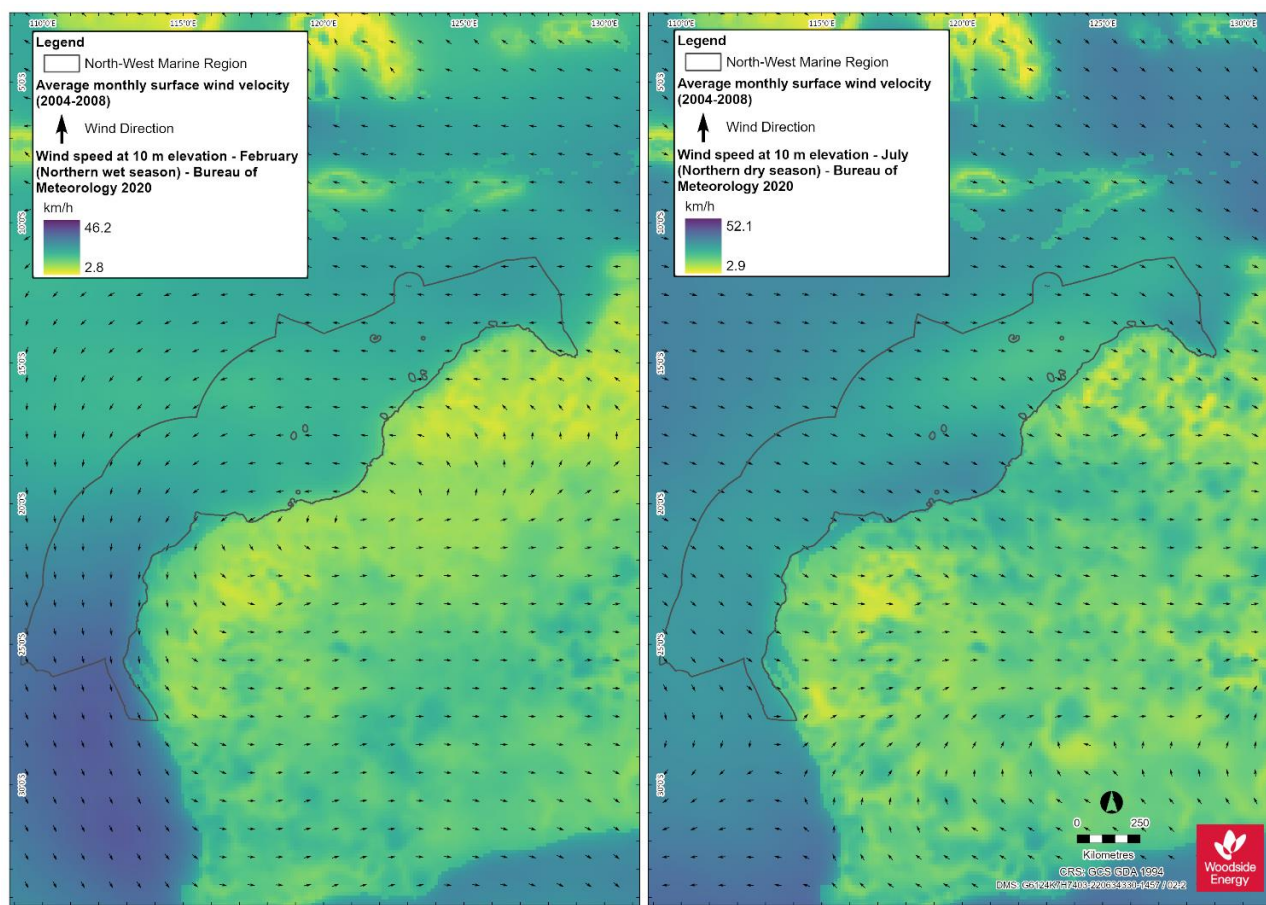


Figure 2-3: Average monthly surface wind direction and velocity for NWMR: (a) summer (February, northern wet season) and (b) winter (July, northern dry season)

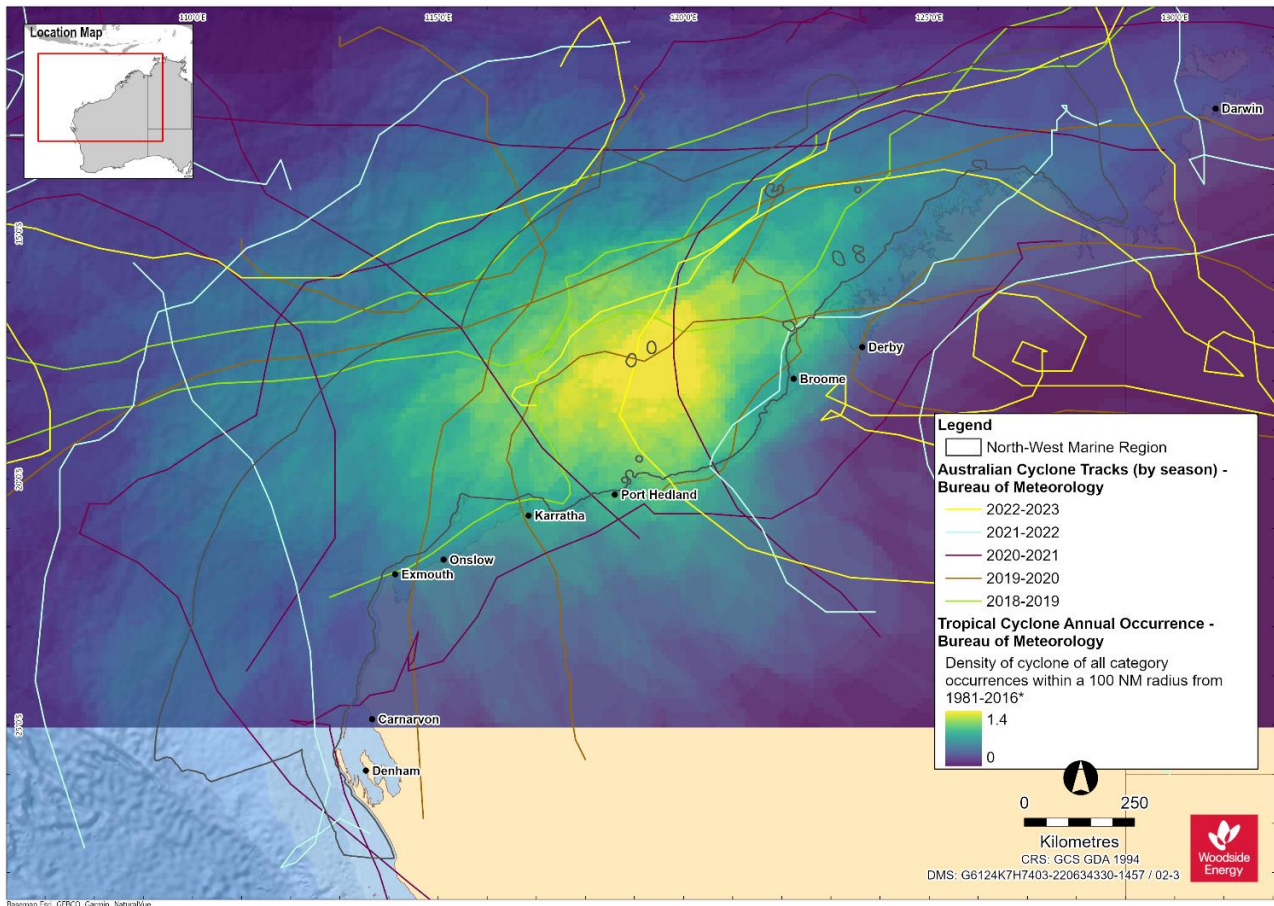


Figure 2-4: Tropical cyclone annual occurrence and cyclone tracks for NWMR

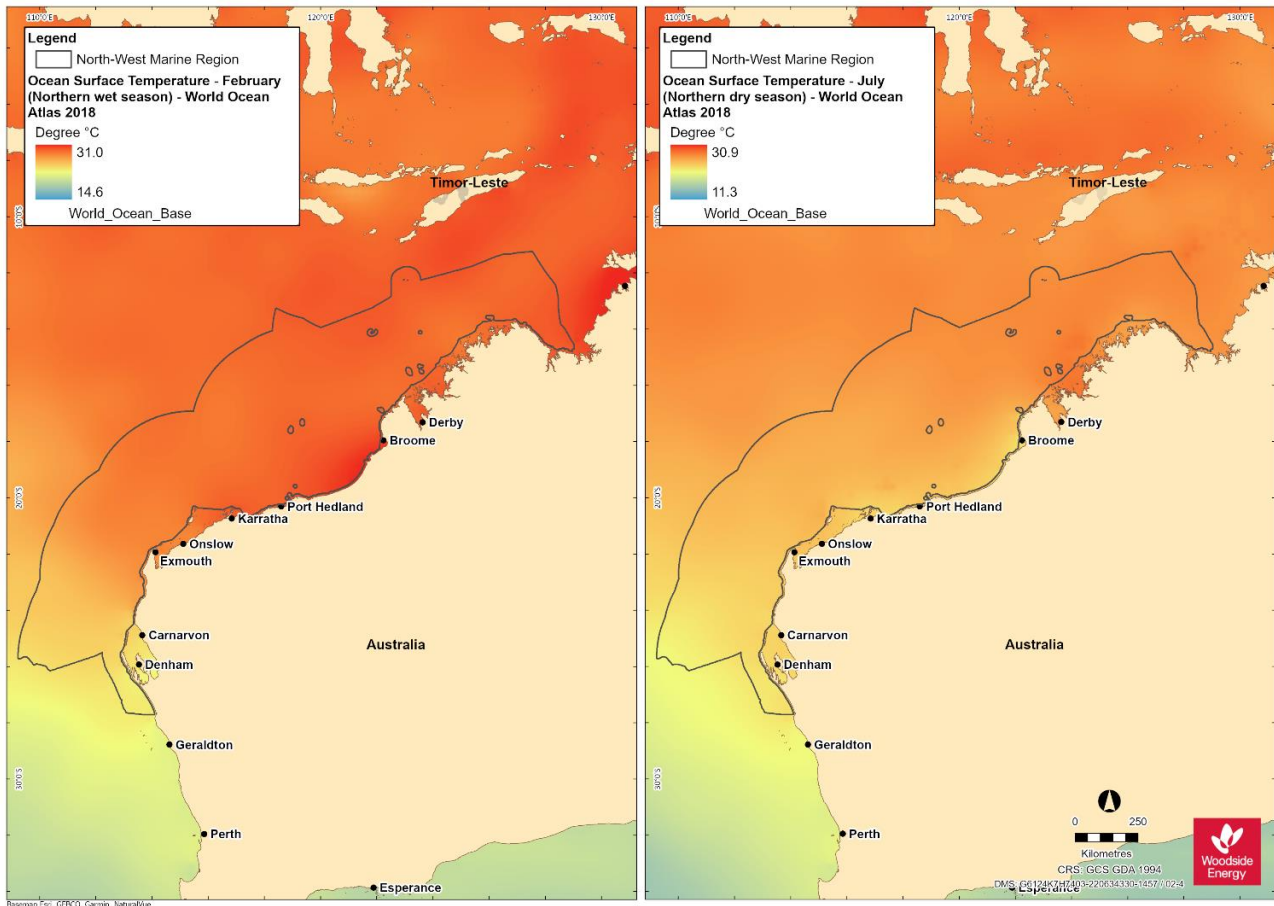


Figure 2-5: Ocean surface temperature for NWMR: (a) summer (February, northern wet season) and (b) winter (July, northern dry season) (data source: Locarnini et al., 2018 in World Ocean Atlas, 2018)

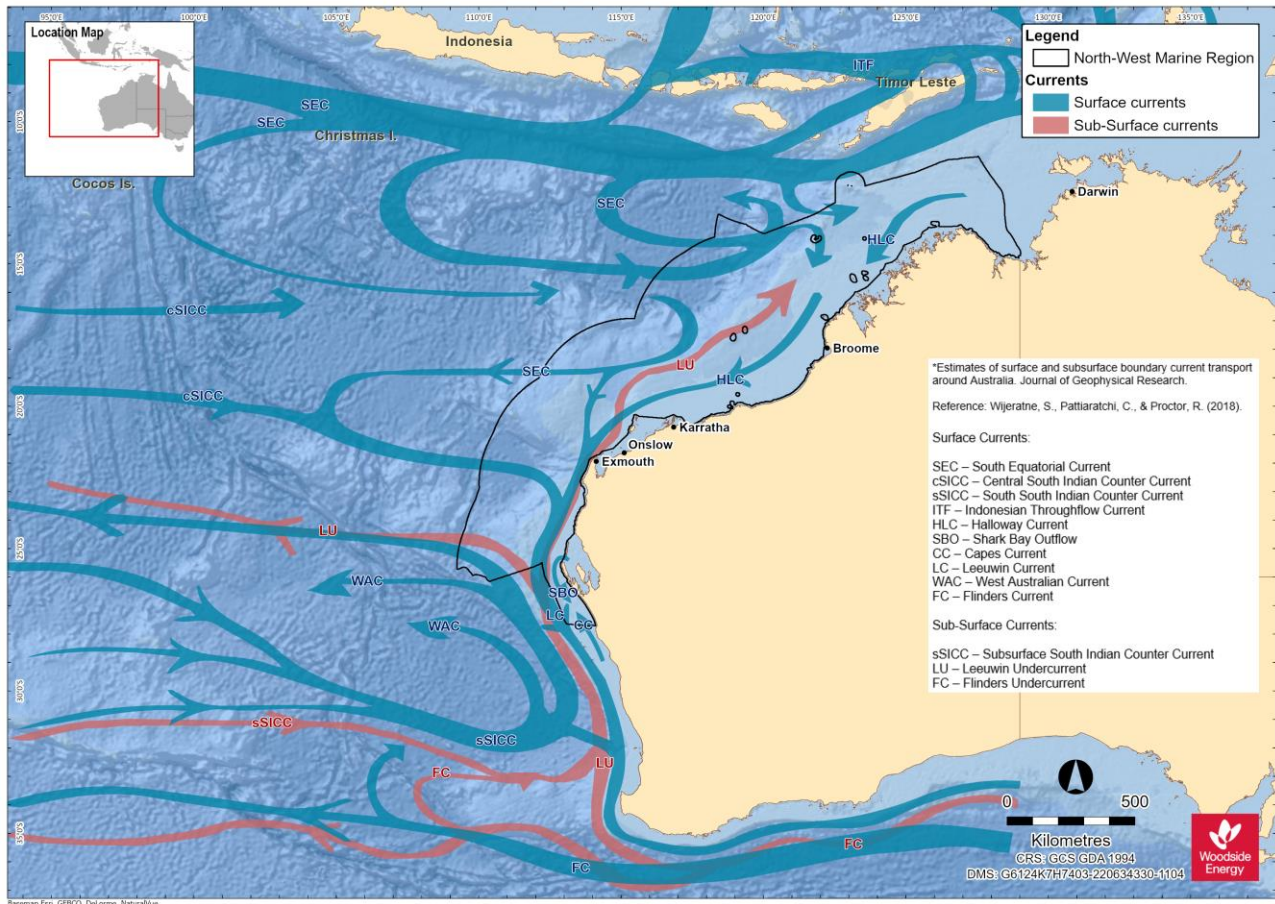


Figure 2-6: Ocean surface and sub-surface currents of the NWMR and wider region (data source: adopted from Wijeratne et al., 2018)

2.3.1 Browse

Table 2-4: Summary meteorology and oceanography for Browse (refer to Appendix B for supporting metocean figures and data sources)

Receptor	Description
Meteorology	
Seasonal patterns	The Browse area overlapping the Kimberley marine system experiences tropical monsoon climate with two distinct seasons: the wet season from December to March and dry season from April to November.
Air temperature	The mean annual air temperature recorded at Troughton Island between 2010 and 2020 ranged from 22.5°C in 2019 to 32.8°C in 2016 and highest mean monthly air temperatures were recorded for the months of November and December (BOM, 2023a).
Rainfall	Rainfall recorded from Troughton Island in the Browse basin ranged from barely detectable (<1 mm) mean monthly level to >100 mm in December to March, with the highest rainfall recorded for January (reflecting the wet monsoon season of the Kimberley marine system) (BOM, 2023a).
Wind	The dry season experiences high-pressure systems that bring East to South-easterly winds with average wind speeds during the season of approximately 16.6 km/h and maximum wind gusts of 65 km/h. In contrast the wet season brings predominately westerly winds with average wind speeds approximately 17 km/h and maximum gusts exceeding 100 km/h (generally associated with tropical cyclones (MetOcean Engineers, 2005).
Oceanography	
Currents	Surface currents exhibit seasonal directionality, with flow to the South-west during March to June and more variable outside this period (Woodside, 2019). This is consistent with the stronger Leeuwin Current flow during winter months, with more variable currents driven by local wind stress during periods of weaker Leeuwin Current flow.

2.3.2 North West Shelf / Scarborough

Table 2-5: Summary meteorology and oceanography for the North West Shelf and Scarborough (refer to Appendix B for supporting metocean figures and data sources)

Receptor	Description
Meteorology	
Seasonal patterns	The NWS and Scarborough areas experience the monsoonal climate of the wider NWMR with a distinct wet and dry seasonal regime and transitions periods between seasons.
Air temperature	Air temperatures as measured at the North Rankin A platform on the NWS ranged from a maximum average of 39.8°C in summer to a minimum average temperature of 15.2°C in winter (Woodside, 2015).
Rainfall	Rainfall patterns annually reveal the wet season with highest rainfalls during the late summer, often associated with the passage of tropical low-pressure systems and cyclones. Rainfall in the dry season is typically extremely low (Pearce et al., 2003) and Appendix B.
Wind	Winds are typically from the southwest during the wet season (summer) and tending from the south-east during the dry season (winter). The summer south-westerly winds are driven by high pressure cells that pass from west to east over the Australian continent. During the winter period, the relative position of the high-pressure cells shifts further north, leading to prevailing south-easterly winds from the mainland (Pearce et al., 2003) and Appendix B.
Oceanography	
Currents	The large-scale ocean currents of the NWMR, primarily the Indonesian Throughflow and Leeuwin Current (and Holloway Current), are the primary influence on the NWS and Scarborough areas. The Indonesian Throughflow and Leeuwin Current are strongest during the late summer and winter and flow reversals to the north-east, typically short-lived and weak when there are strong south-westerly winds, can generate localised upwelling on the shelf edge (Holloway and Nye, 1985; James et al., 2004; Condie et al., 2006).

2.3.3 North-west Cape

Table 2-6: Summary meteorology and oceanography for the North-west Cape (refer to Appendix B for supporting metocean figures and data sources) for supporting metocean figures)

Receptor	Description
Meteorology	
Seasonal patterns	The climate of the NWMR is dry tropical exhibiting a hot summer season and a mild winter season. There are often distinct transition periods between the summer and winter regimes, characterised by periods of relatively low winds.
Air temperature	Air temperatures in the North-west Cape area range from high summer temperatures (maximum average of 38°C) and mild winter temperatures (minimum average of 11.5°C) as recorded from the Learmonth Airport (BOM, 2023b).
Rainfall	Rainfall typically occurs during the summer, with highest rainfall during later summer and autumn (mean monthly level to >19 mm), with the highest rainfall recorded during June, often associated with the passage of tropical low-pressure systems and cyclones. Rainfall is typically low in winter (<2 mm) (BOM, 2023b).
Wind	Winds vary seasonally, generally from the south-west quadrant during summer months and the south, south-east quadrant during the autumn and winter months. The summer south-westerly winds are driven by high pressure cells that pass from west to east over the Australian continent. Winds typically weaken and are more variable during the transitional period between the summer and winter seasons, generally between April to August.
Oceanography	
Currents	Surface currents exhibit seasonal directionality, with flow to the south-west during March to June and more variable outside this period (Woodside, 2022). This is consistent with the stronger Leeuwin Current flow during winter months, with more variable currents driven by local wind stress during periods of weaker Leeuwin Current flow.

2.4 Physical Environment of NWMR

Based on the Integrated Marine and Coastal Regionalisation of Australia (IMCRA) Version 4.0, there are eight provincial bioregions that occur within the NWMR, which are based on patterns of demersal fish diversity, benthic habitat and oceanographic data (Commonwealth of Australia, 2006), Figure 2-7. Of the eight provincial bioregions that occur within the NWMR, these include four offshore (~65% of total NWMR area) and four shelf (~35% of total NWMR area) bioregions (Baker et al., 2008).

The NWMR is a tropical carbonate margin that comprises an extensive area of shelf, slope and abyssal plain/deep ocean floor, as well as complex areas of bathymetry such as plateau, terraces and major canyons (Harris et al., 2005). A series of reefs are located on the outer shelf/slope of the NWMR, including Ashmore, Cartier, Scott and Seringapatam reefs (Baker et al., 2008). The distribution of seafloor geomorphic features has been systematically mapped over much of the Australian margin and adjacent seafloor. The mapped area can be divided into 10 geomorphic regions, of which the NWMR overlays two; the Western Margin and Northern Margin (Harris et al., 2005). Most of the region consists of either continental slope (61%) or continental shelf (28%) (DEWHA, 2007a), with more than 40% of the NWMR having a water depth less than 200 m. The shallow shelf is contrasted by features such as the Cuvier and Argo abyssal plains, which reach depths of more than 5 km. A unique feature of the region is the significant narrowing of the continental shelf around North-west Cape (approximately 7 km wide) from the broad continental shelf in the north of the region (approximately 400 km wide at Joseph Bonaparte Gulf) (DEWHA, 2007a), Figure 2-8.

The geological history of the region, as well as its geomorphology and oceanography, has influenced the composition and distribution of sediments (DEWHA, 2007a). The sedimentology of the NWMR is dominated by marine carbonates, which show a broad zoning and fining with water depth. Main trends of the NWMR sediments include a tropical carbonate shelf that is dominated by sand and

gravel, an outer shelf/slope zone that is dominated by mud and a relatively homogenous rise and abyssal plain/deep ocean floor that is dominated by non-carbonate mud (Baker et al., 2008), Figure 2-9. The distribution and resuspension of sediments on the inner shelf is strongly influenced by the strength of tides across the continental shelf as well as episodic events such as cyclones. Further offshore, on the mid to outer shelf and on the slope itself, sediment movement is primarily influenced by ocean currents and internal tides (DEWHA, 2007a).

This variation in bathymetry and interactions with oceanographic processes provides a diversity of habitats to marine fauna and flora within the NWMR.

2.5 Air Quality

The ambient air quality of all three marine regions is largely unpolluted due to the extent of the open ocean area, the activities currently carried out in each and the relative remoteness of each region.

Vessel traffic and existing offshore surface infrastructure are the only likely sources of pollutants in the marine region. Closer to the coast there may be localised and temporary reductions in air quality around areas of high vessel traffic, or due to the occurrence of dust storms and bushfires. International contributors to reduced air quality in the marine region may include 'slash-and-burn' agricultural methods and large forest fires in South-east Asian regions (Vadrevu et al., 2014; Kim Oanh et al., 2018).

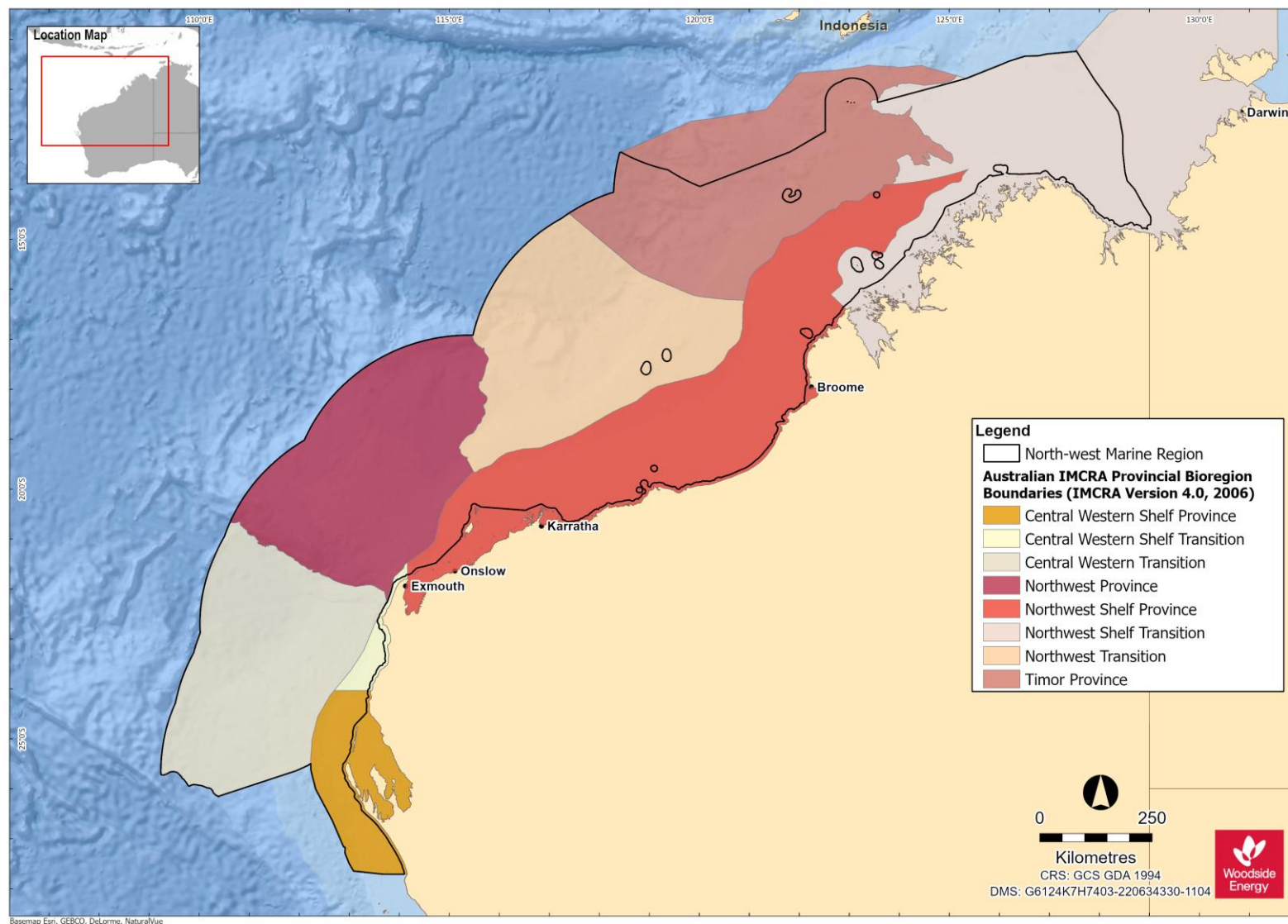


Figure 2-7: The eight Integrated Marine and Coastal Regionalisation of Australia (IMCRA) v4.0 provincial bioregions of the NWMR (GA, 2024)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

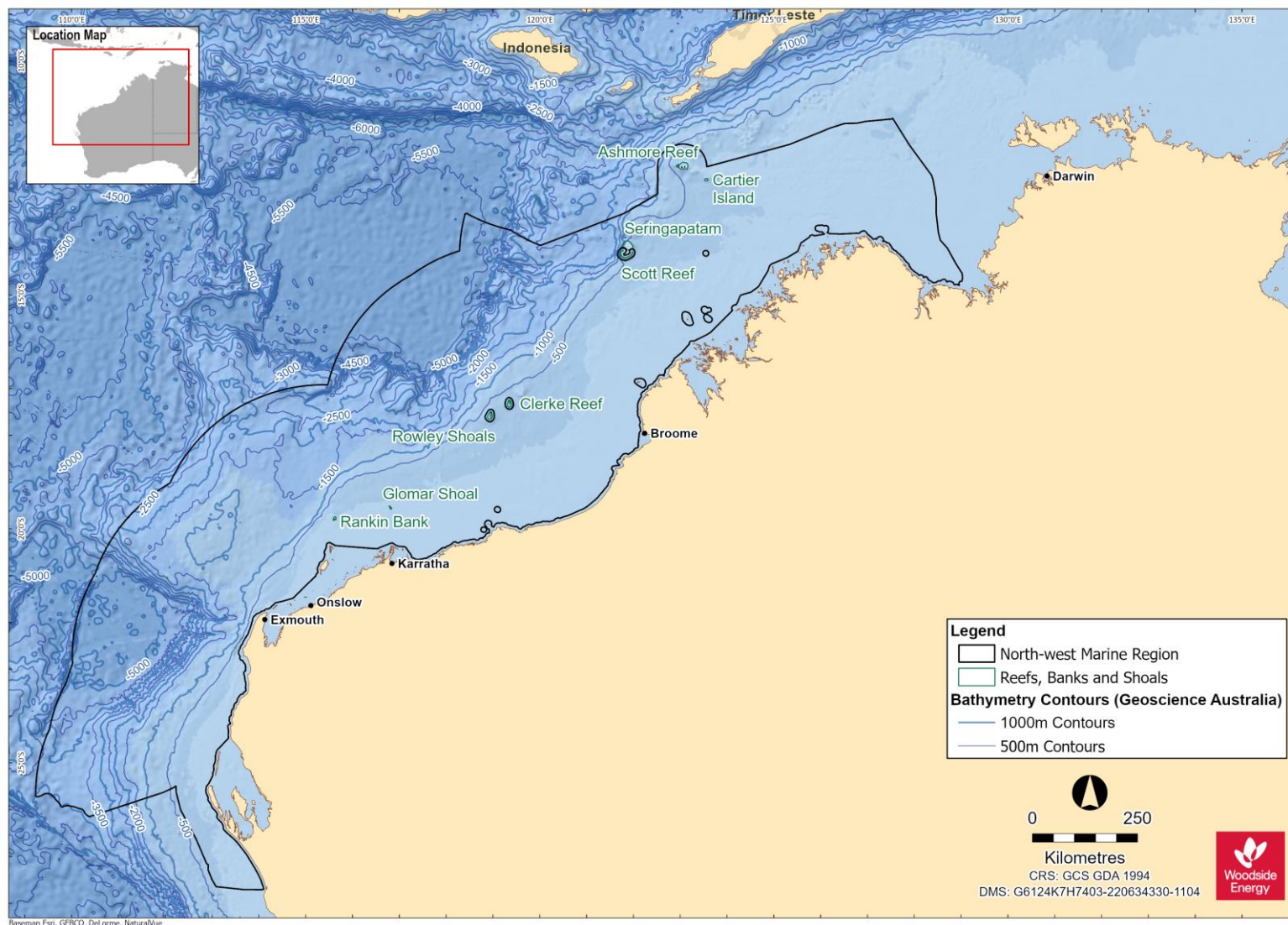


Figure 2-8: Bathymetry of the NWMR (data source: Geoscience Australia)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: G2000RH1401743486

Revision: 2

Woodside ID: 1401743486

Page 26 of 373

Uncontrolled when printed. Refer to electronic version for most up to date information.

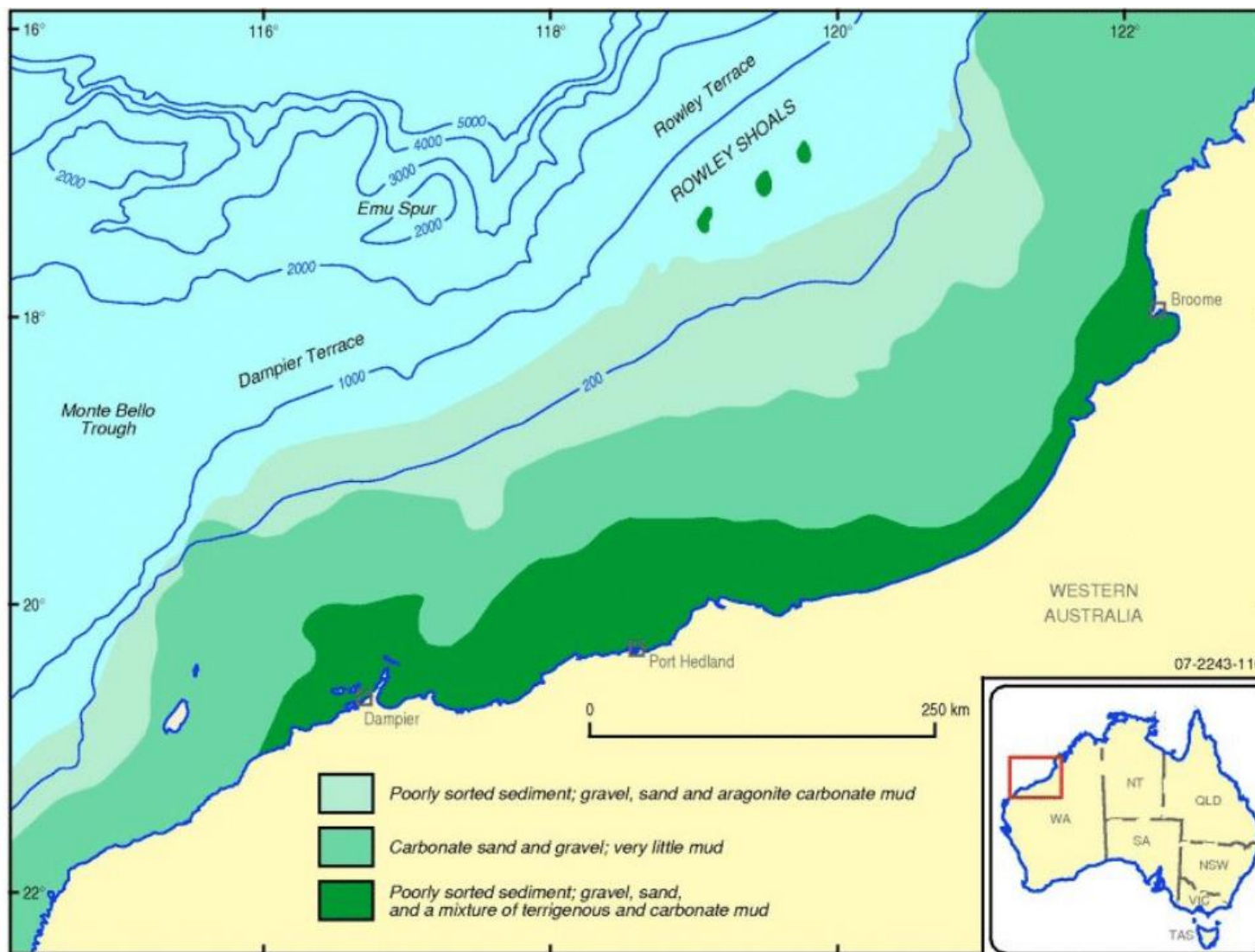


Figure 2-9: Overview of the seabed sediments of the NWMR (data source: Baker et al., 2008)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

3. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE (EPBC ACT)

3.1 Summary of Matters of National Environmental Significance (MNES)

This section summarises the matters of national environmental significance (MNES) reported for the three bioregions; NWMR (Table 3-1), SWMR (Table 3-2) and NMR (Table 3-3), based on the Protected Matters search reports (Appendix A).

Additional information on these MNES is provided in subsequent sections (referenced in Table 3-1, Table 3-2 and Table 3-3).

Table 3-1: Summary of MNES identified by the EPBC Act Protected Matters Search Tool (PMST) within and potentially occurring within the NWMR

MNES	Number	Description	Section of this Document
World Heritage Properties	2	Shark Bay The Ningaloo Coast	Section 11
National Heritage Places	5	Shark Bay The Ningaloo Coast The West Kimberley The Dampier Archipelago (including Burrup Peninsula) Dirk Hartog Landing Site 1616	Section 11
Wetlands of International Importance (Ramsar)	4	Ashmore Reef National Nature Reserve Eighty Mile Beach Ord River Floodplain Roebuck Bay	Section 11
Commonwealth Marine Areas	5	EEZ and Territorial Sea Key Ecological Features (KEFs) Australian Marine Parks (AMPs) Australian Whale Sanctuary Extended Continental Shelf	Section 11
Listed Threatened Ecological Communities	1	Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula	Terrestrial community and not considered further
Listed Threatened Species	109	Refer NWMR PMST report (Appendix A)	Section 5 to Section 9
Listed Migratory Species	97	Refer NWMR PMST report (Appendix A)	Section 5 to Section 9

Table 3-2: Summary of MNES identified by the EPBC Act PMST within and potentially occurring within the SWMR

MNES	Number	Description	Section of this Document
World Heritage Properties	1	Australian Convict Sites (Fremantle Prison).	Section 11
National Heritage Places	5	Cheetup Rock Shelter Batavia Shipwreck site HMAS Sydney II and HSK Kormoran Fitzgerald River National Park Fremantle Prison (former).	Section 11
Wetlands of International Importance (Ramsar)	6	Becher Point Wetlands Forrestdale and Thomsons Lakes Peel-Yalgorup System Vasse-Wonnerup System Lake Gore Lake Warden System	Section 11
Commonwealth Marine Areas	5	EEZ and Territorial Sea KEFs AMPs Australian Whale Sanctuary Extended Continental Shelf	Section 11
Listed Threatened Ecological Communities	9	SWMR Subtropical and Temperate Coastal Saltmarsh Terrestrial Banksia Woodlands of the Swan Coastal Plain ecological community Proteaceae Dominated Kwongan Shrublands of the Southeast Coastal Floristic Province of Western Australia Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands and Forests of the Swan Coastal Plain ecological community Aquatic Root Mat Community 3 in Caves of the Leeuwin Naturaliste Ridge Thrombolite (microbial) community of coastal freshwater lakes of the Swan Coastal Plain (Lake Richmond) Sedgeland in Holocene dune swales of the southern Swan Coastal Plain Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion Empodisma peatlands of southwestern Australia	Section 11
Listed Threatened Species	166	Refer SWMR PMST report (Appendix A)	N/A
Listed Migratory Species	89	Refer SWMR PMST report (Appendix A)	N/A

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 3-3: Summary of MNES identified by the EPBC Act PMST within and potentially occurring within the NMR

MNES	Number	Description	Section of this Document
World Heritage Properties	0	N/A	N/A
National Heritage Places	0	N/A	N/A
Wetlands of International Importance (Ramsar)	0	N/A	N/A
Commonwealth Marine Areas	5	EEZ and Territorial Sea KEFs AMPs Australian Whale Sanctuary Extended Continental Shelf	Section 11
Listed Threatened Ecological Communities	0	N/A	N/A
Listed Threatened Species	82	Refer NMR PMST report (Appendix A)	N/A
Listed Migratory Species	82	Refer NMR PMST report (Appendix A)	N/A

3.2 Part 13 Statutory Instruments for EPBC Act Listed Threatened and Migratory Species in the NWMR, South-west Marine Region (SWMR) and North Marine Region (NMR)

A screening process was conducted to identify which EPBC Act listed threatened and migratory species, and associated Part 13 statutory instruments, are relevant in the context of the assessment of impacts and risks associated with petroleum activities in each of the Woodside activity areas. The screening criteria included:

- overlap among the Woodside activity areas with habitat critical for survival (e.g. marine turtles) and with biologically important areas (BIAs) (overlapping the marine environment) for any listed threatened and/or migratory species as reported in the PMST searches
- published literature, unpublished reports and/or credible anecdotal information (e.g. feedback from stakeholders) indicating species presence/occurrence within the Woodside activity areas
- temporal overlap between the likely timing of petroleum activities and peak periods for key critical life stage behaviours (e.g. breeding, nesting, calving, resting, foraging, migration)
- environmental aspects associated with petroleum activities that have been identified as a key threat to a species in a Part 13 statutory instrument (e.g. anthropogenic noise, light emissions, marine debris).

Relevant EPBC Act threatened and migratory species and their Part 13 statutory instruments are listed in Table 3-4. For the full list of EPBC Act listed species for each marine bioregion refer to the PMST reports (Appendix A).

Table 3-4: Summary of EPBC Act threatened and migratory species to be considered for impact or risk evaluation for Woodside operations

Species	EPBC Act Part 13 Statutory Instrument
All vertebrate marine fauna	Threat Abatement Plan for the impacts of marine debris on vertebrate marine life (Commonwealth of Australia, 2018)
Marine Mammals	
Blue whale	Conservation Management Plan for the Blue Whale: A Recovery Plan under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> 2015–2025 (Commonwealth of Australia, 2015a)
Southern right whale	National Recovery Plan for the Southern Right Whale <i>Eubalaena australis</i> (DCCEEW, 2024a)
Sei whale	Conservation Advice <i>Balaenoptera borealis</i> sei whale (Threatened Species Scientific Committee, 2015a)
Fin whale	Conservation Advice <i>Balaenoptera physalus</i> fin whale (Threatened Species Scientific Committee, 2015c)
Australian sea lion	Recovery Plan for the Australian Sea Lion (<i>Neophoca cinerea</i>) 2013 (DSEWPAC, 2013a) Conservation Advice <i>Neophoca cinerea</i> Australian Sea Lion (Threatened Species Scientific Committee, 2020a) (in effect under the EPBC Act from 23-Dec-2020)
Marine Reptiles	
All marine turtle species (loggerhead, green, leatherback, hawksbill, flatback, olive ridley)	Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017) National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (DCCEEW, 2023d)
Mitchell's water monitor	Conservation Advice for <i>Varanus mitchelli</i> (Mitchell's water monitor) (DCCEEW, 2023c)
Short-nosed sea snake	Approved Conservation Advice for <i>Aipysurus apraefrontalis</i> (Short-nosed Sea Snake) (DSEWPAC, 2011a)
Leaf-scaled sea snake	Approved Conservation Advice for <i>Aipysurus foliosquama</i> (Leaf-scaled Sea Snake) (DSEWPAC, 2011b)
Fishes, Sharks, Rays and Sawfishes	
Grey nurse shark (West coast population)	Recovery Plan for the Grey Nurse Shark (<i>Carcharias taurus</i>) 2014 (DOE, 2014)
White shark	Recovery Plan for the White Shark (<i>Carcharodon carcharias</i>) 2013 (DSEWPAC, 2013b)
Whale shark	Conservation Advice <i>Rhincodon typus</i> whale shark (Threatened Species Scientific Committee, 2015d)
All sawfishes (largetooth, green, dwarf, speartooth, narrow)	Sawfish and River Sharks Multispecies Recovery Plan (Commonwealth of Australia, 2015b)
This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved. Controlled Ref No: G2000RH1401743486 Revision: 2 Woodside ID: 1401743486 Page 38 of 373 Uncontrolled when printed. Refer to electronic version for most up to date information.	

Species	EPBC Act Part 13 Statutory Instrument
Seabirds	
Migratory seabird species	Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2020) National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (DCCEEW, 2023d)
Australian fairy tern	National Recovery Plan for the Australian Fairy Tern <i>Sternula nereis nereis</i> (Commonwealth of Australia, 2020) EPBC Act Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia’s coasts and oceans (DoEE, 2018)
Australian lesser noddy	Conservation Advice <i>Anous tenuirostris melanops</i> Australian lesser noddy (Threatened Species Scientific Committee, 2015e) EPBC Act Threat Abatement Plan to reduce the impacts of exotic rodents on biodiversity on Australian offshore islands of less than 100,000 hectares (DEWHA, 2009)
Amsterdam petrel	National Recovery Plan for albatrosses and petrels (DCCEEW, 2022) EPBC Act Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia’s coasts and oceans (DoEE, 2018)
Brown booby	EPBC Act Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia’s coasts and oceans (DoEE, 2018)
Wedge-tailed shearwater	
Flesh-footed shearwater	
Wilson’s storm petrel	
Shorebirds	
Migratory shorebird species	Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015c) EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing, and mitigating impacts on EPBC Act listed migratory shorebird species (DoEE, 2017) National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (DCCEEW, 2023d)
Eastern curlew, far eastern curlew	Conservation Advice <i>Numenius madagascariensis</i> Far eastern curlew (DCCEEW, 2023e)
Curlew sandpiper	Conservation Advice <i>Calidris ferruginea</i> curlew sandpiper (DCCEEW, 2023f)
Bar-tailed godwit (<i>menzbieri</i>)	Conservation Advice <i>Limosa lapponica menzbieri</i> Bar-tailed godwit (northern Siberia) (DCCEEW, 2024e)
Lesser sand plover	Conservation Advice <i>Charadrius mongolus</i> Lesser sand plover (Threatened Species Scientific Committee, 2016)
Australian painted snipe	Conservation Advice <i>Rostratula australis</i> Australian painted snipe (Threatened Species Scientific Committee, 2013a)
Great knot	Conservation Advice <i>Calidris tenuirostris</i> Great knot (DCCEEW, 2024g)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	EPBC Act Part 13 Statutory Instrument
Red knot, knot	Conservation Advice <i>Calidris canutus</i> Red knot (DCCEEW, 2024f)
Greater sand plover	Conservation Advice <i>Charadrius leschenaultii</i> Greater sand plover (DCCEEW, 2023g)
Black-tailed godwit	Conservation Advice for <i>Limosa limosa</i> black-tailed godwit (DCCEEW, 2024h)
Common greenshank	Conservation Advice for <i>Tringa nebularia</i> (common greenshank) (DCCEEW, 2024i)
Asian dowitcher	Conservation Advice for <i>Limnodromus semipalmatus</i> (Asian dowitcher) (DCCEEW, 2024j)
Ruddy turnstone	Conservation Advice for <i>Arenaria interpres</i> (ruddy turnstone) (DCCEEW, 2024k)
Sharp-tailed sandpiper	Conservation Advice for <i>Calidris acuminata</i> (sharp-tailed sandpiper) (DCCEEW, 2024l)
Terek sandpiper	Conservation Advice for <i>Xenus cinereus</i> (terek sandpiper) (DCCEEW, 2024m)
Grey plover	Conservation Advice for <i>Pluvialis squatarola</i> (grey plover) (DCCEEW, 2024n)

4. HABITAT AND BIOLOGICAL COMMUNITIES

4.1 Regional Context

The NWMR habitats range from nearshore benthic primary producer habitats such as seagrass beds, coral communities and mangrove forests, to offshore soft sediment seabed habitats and submerged and emergent reef systems. These habitats support biological communities that range from low density sessile and mobile benthos, such as sponges, molluscs and echinoids (with noted areas of sponge hotspot diversity) in offshore soft sediment habitat (DSEWPAC, 2012a) to complex, diverse, remote coral reef systems.

Benthic primary producer habitats, such as seagrass beds, coral communities and mangrove forests within the SWMR, are described as a mixture of tropical and temperate species, due to the seasonal influences of the tropical waters carried south by the Leeuwin Current and the temperate waters carried north by the Capes Current (DSEWPAC, 2012b).

The NMR shares similar habitat types to the NWMR. The predominant habitat of the region includes soft muddy sediments on relatively flat terrain. Other habitat types include seagrasses, reefs, shoals and coastal habitats such as mangroves and coastal wetlands (Rochester et al., 2007).

The summary of key habitats and biological communities provided in the following sub-sections is focused on the primary features of relevance to the activity areas within the NWMR – primarily the offshore habitats of the continental shelf and slope, submerged shoals and banks, and remote oceanic reef systems of recognised conservation value.

4.2 Biological Productivity of NWMR

Primary productivity of the NWMR is generally low and appears to be largely driven by offshore influences (Brewer et al., 2007), with periodic upwelling events and cyclonic influences driving coastal productivity with nutrient recycling and advection. Seasonal weather patterns also influence the delivery of nutrients from deep-water to shallow water. Cyclones and North-westerly winds during the North-west monsoon (approximately November–March) and the strong offshore winds of the South-east monsoon (approximately April–September) facilitate the upwelling and mixing of nutrients from deep-water to shallow water environments (Brewer et al., 2007).

The Indonesian Throughflow (ITF) has an important effect on productivity in the northern areas of the Region. Generally, its deep, warm and low nutrient waters suppress upwelling of deeper comparatively nutrient-rich waters, thereby forcing the highest rates of primary productivity to occur at depths associated with the thermocline. When the ITF is weaker, the thermocline lifts bringing deeper, more nutrient-rich waters into the photic zone and hence resulting in conditions favourable to increased productivity (DEWHA, 2007a). Similarly, the Leeuwin Current has a significant role in determining primary productivity in the southern areas of the NWMR. As with the ITF, the overlying warm oligotrophic waters of the Leeuwin Current suppress upwelling. A subsurface chlorophyll maximum is therefore formed at a depth in the water column where nutrients and light are sufficient for photosynthesis to proceed. Seasonal changes in the strength of the Leeuwin Current influence primary productivity levels, and seasonal interactions between the Leeuwin and Ningaloo currents in the south of the NWMR, are believed to be particularly important (DEWHA, 2007a).

Internal tides (defined as internal waves generated by the barotropic tide) are a striking characteristic of many parts of the NWMR and are associated with highly stratified water columns. Internal waves (solitons), which can raise cooler, generally more nutrient rich water higher in the water column, are generated between water depths of 400 m and 1000 m where bottom topography results in a significant change in water depth over a relatively short distance. Cyclones are episodic events in the NWMR that contribute to spikes in productivity through enrichment of surface water layers due to enhanced vertical mixing of the water column. Temporary increases in primary productivity as a result of cyclones generally last between one and two weeks, and it is believed that the impacts of

cyclones are generally limited to waters less than 100 m deep and affect benthic communities more substantially than pelagic systems (DEWHA, 2007a).

Water depth also has a significant overriding influence over productivity in the marine environment, due to its influence on light availability. This is reflected by distinct onshore and offshore assemblages of major pelagic groups of phytoplankton, microzooplankton, mesoplankton and ichthyoplankton. Productivity booms are thought to be triggered by seasonal changes to physical drivers or episodic events, as detailed above, which result in rapid increases in primary production over short periods, followed by extended periods of lower primary production. The trophic systems in the NWMR are able to take advantage of blooms in primary production, enabling nutrients generated to be used by different groups of consumers over long periods (DEWHA, 2007a).

Little detailed information is available about the trophic systems in the NWMR. The utilisation of available nutrients is thought to differ between pelagic and benthic environments, influenced by water depth and vertical migration of some species groups in the water column. In the pelagic system, it is thought that approximately half of the nutrients available are utilised by microzooplankton (e.g. protozoa) with the remainder going to macro/meso-zooplankton (e.g. copepods). As primary and secondary consumers, gelatinous zooplankton (e.g. salps, coelenterates) and jellyfish are thought to play an important role in the food web, contributing a significant proportion of biomass in the marine system during and for periods after booms in primary productivity. Salps are semi-transparent, barrel-shaped marine animals that can reproduce quickly in response to bursts in primary productivity and provide a food source for many pelagic fish species (DEWHA, 2007a).

4.3 Planktonic Communities in the NWMR

The NWMR has two distinct phytoplankton assemblages; a tropical oceanic community in offshore waters and a tropical shelf community confined to the NWS (Hallegraeff, 1995). MODIS (Moderate Resolution Imaging Spectrometer) satellite datasets from the NWMR indicates that chlorophyll (and thus phytoplankton) levels are low in summer months (December to March) and higher in the winter months (Schroeder et al., 2009). Low chlorophyll levels during summer months may be a result of lower plankton productivity during the wet season or lower nutrient inputs from warm surface waters dominant during summer. However, it is likely that much of the primary production is taking place below the surface, where the MODIS imagery does not penetrate (Schroeder et al., 2009). The winter months are relatively cloud-free and surface chlorophyll is high throughout most of the region.

Zooplankton may include organisms that complete their lifecycle as plankton (e.g. copepods, euphausiids) as well as larval stages of other taxa such as fishes, corals and molluscs. Peaks in zooplankton such as mass coral spawning events (typically in March and April) (Rosser and Gilmour, 2008) and fish larvae abundance (CALM, 2005a) can occur throughout the year. Spatial and temporal patterns in the distribution and abundance of macro-zooplankton on the North-west Shelf are influenced by sporadic climatic and oceanographic events, with large inter-annual changes in assemblages (Wilson et al., 2003). Amphipods, euphausiids, copepods, mysids and cumaceans are among the most common components of the zooplankton in the region (Wilson et al., 2003).

4.3.1 Browse

Phytoplankton within the Browse activity area is expected to reflect the conditions of the NWMR. There is a tendency for offshore phytoplankton communities in the NWMR to be characterised by smaller taxa (e.g. bacteria), whereas shelf waters are dominated by larger taxa such as diatoms (Hanson et al., 2007).

Zooplankton within the activity area may include organisms that complete their lifecycle as plankton (e.g. copepods, euphausiids) as well as larval stages of other taxa such as fishes, corals and molluscs. Peaks in zooplankton such as mass coral spawning events (typically in March and April) (Rosser and Gilmour, 2008; Simpson et al., 1993) and fish larvae abundance (CALM, 2005a) can occur throughout the year.

The influence of the Indonesian Throughflow restricts upwelling across the Kimberley System (approximately equates to the Browse activity area). However, small-scale topographically associated current movements and upwellings are thought to occur, which inject nutrients into specific locations within the system and result in 'productivity hot-spots'. Similarly, internal waves, generated at the shelf break (e.g. west of Browse Island and around submerged cliffs located at the continental shelf edge) play a role in making nutrients available in the photic zone (Sutton et al., 2019). Productivity within shallow nearshore waters is driven primarily by tidal movement and terrestrial runoff whereby nutrients are mixed by tidal action and new inputs of organic matter come from the land.

4.3.2 North West Shelf / Scarborough

Plankton communities within the NWS / Scarborough activity area are expected to reflect conditions of the NWMR. Internal tides along the NWS and Exmouth Plateau result in the drawing of deeper cooler waters into the photic zone, stirring up nutrients and triggering primary productivity. Broadly the greatest productivity within this sub-system is found around the 200 m isobath associated with the shelf break.

4.3.3 North-west Cape

Waters of the North-west Cape experience a relatively high diversity of phytoplankton groups including diatoms, coccolithophorids and dinoflagellates. During the warmer months blooms of *Trichodesmium* occur in the region, these have been observed particularly on the frontal systems around Point Murat (Heyward et al., 2000).

Average Leeuwin Current phytoplankton biomass is characteristic of low productivity oceanic waters like the Indian, Pacific and Atlantic Oceans (Hanson et al., 2005). However, the Canyons linking the Cuvier Abyssal Plain and Cape Range Peninsula KEF are connected to the Commonwealth waters adjacent to Ningaloo Reef and may also have connections to Exmouth Plateau. The canyons are thought to interact with the Leeuwin Current to produce eddies inside the heads of the canyons, resulting in waters from the Antarctic intermediate water mass being drawn into shallower depths and onto the shelf (Brewer et al., 2007). These waters are cooler and richer in nutrients and strong internal tides may also aid upwelling at the canyon heads (Brewer et al., 2007). The narrow shelf width (about 10 km) near the canyons facilitates nutrient upwelling and relatively high productivity. This high primary productivity leads to high densities of primary consumers, such as micro and macro-zooplankton, such as amphipods, copepods, mysids, cumaceans, euphausiids (Brewer et al., 2007).

4.4 Habitats and Biological Communities in the NWMR

4.4.1 Offshore Habitats and Biological Communities

The NWMR has a large area of continental shelf and continental slope, with a range of bathymetric features such as canyons, plateaus, terraces, ridges, reefs, banks and shoals. The marine environment in this region is typified by tropical to sub-tropical marine ecosystems with diverse habitats from soft sediments, canyons, remote oceanic coral reef systems and continental shelf limestone pavement seabed habitat. The NWMR encompasses large seabed areas of deepwater seabed habitats dominated by soft sediments (sandy and muddy substrata with occasional patches of coarser sediments) and sparse benthic biota. Comprehensive surveys and documentation of habitats and biota from the shelf to deep waters (100 m to 1000 m) spanning 13 sites between Barrow Island and Ashmore Reef, running downslope across the continental shelf and slope of NWS were conducted in 2007 (Williams et al., 2010). Sites on the continental slope (approximately 400 m deep) predominately comprised soft, muddy sediments and epifauna were sparsely distributed and limited to isolated individual sessile biota such as crinoids, anemones, glass sponges and sea pens. Occasional non-sessile biota, characteristic of the deeper water benthic communities was recorded and included: echinoderms (urchins, holothurians and sea stars) and decapod crustaceans (prawns

and crabs). Similar benthic biota composition was reported for the continental slope seabed habitats at depths of 700-1000 m (Williams et al., 2010). With reference to the NWS, multiple surveys have documented habitats comprising bare unconsolidated carbonate sediments supporting a sparse assemblage of deposit and filter feeding organisms, including glass sponges, urchins, sea cucumbers, sea stars and crustaceans (URS, 2010). Filter feeding communities documented within the NWS include bryozoans, sponges, gorgonians, and hydroids attached to consolidated substrate; these were interspersed with sand which hosted fewer filter feeders (AIMS, 2014). Infauna associated with soft, unconsolidated sediment habitat such as polychaetes are widespread and well represented along the continental shelf and upper slopes (Brewer et al., 2007; RPS, 2012). The key habitats and biological communities that are representative of the broader NWMR are summarised in Table 4-1.

The key habitats and biological communities representative of the broader SWMR and NMR are summarised in Table 4-2 and Table 4-3.

There is a marked biodiversity gradient from high ecological valued coastal (primary producer habitats and associated benthic and mobile biota) to the lower valued deeper offshore habitats comprising soft, unconsolidated sediments and typically sparser biota (epifauna and infauna), with the exception of the submerged shoal features, remote oceanic reef systems of the Rowley Shoals, Scott Reef and Ashmore Reef, as well as the fringing reef habitats of Ningaloo, the Kimberley coastline, the offshore island groups such as Barrow Island, Lowendal and Montebello Islands, and the Dampier Archipelago. A brief overview of the high valued biodiversity reef and mesophotic habitats and associated benthic communities are presented in the following sub-sections.

4.4.2 Browse

The most diverse habitats and benthic communities in the Kimberley region of North-western Australia, are where the oceanic reef systems of Ashmore, Cartier, Scott and Seringapatam reefs, and the Rowley Shoals, sit near the edge of the continental shelf hundreds of kilometres from the mainland and from each other (Gilmour et al., 2019 and 2023), refer to Figure 4-1. The long-term monitoring program for Scott Reef and the Rowley Shoals conducted by AIMS since 1994 is now one of the world's longest studies of coral reef ecosystems and provides unprecedented understanding of the background (baseline) changes at oceanic reefs on Australia's North-west Shelf, encompassing the physical drivers, and underlying processes of change (impact and recovery) from acute disturbances (heat stress – coral mass-bleaching and cyclones).

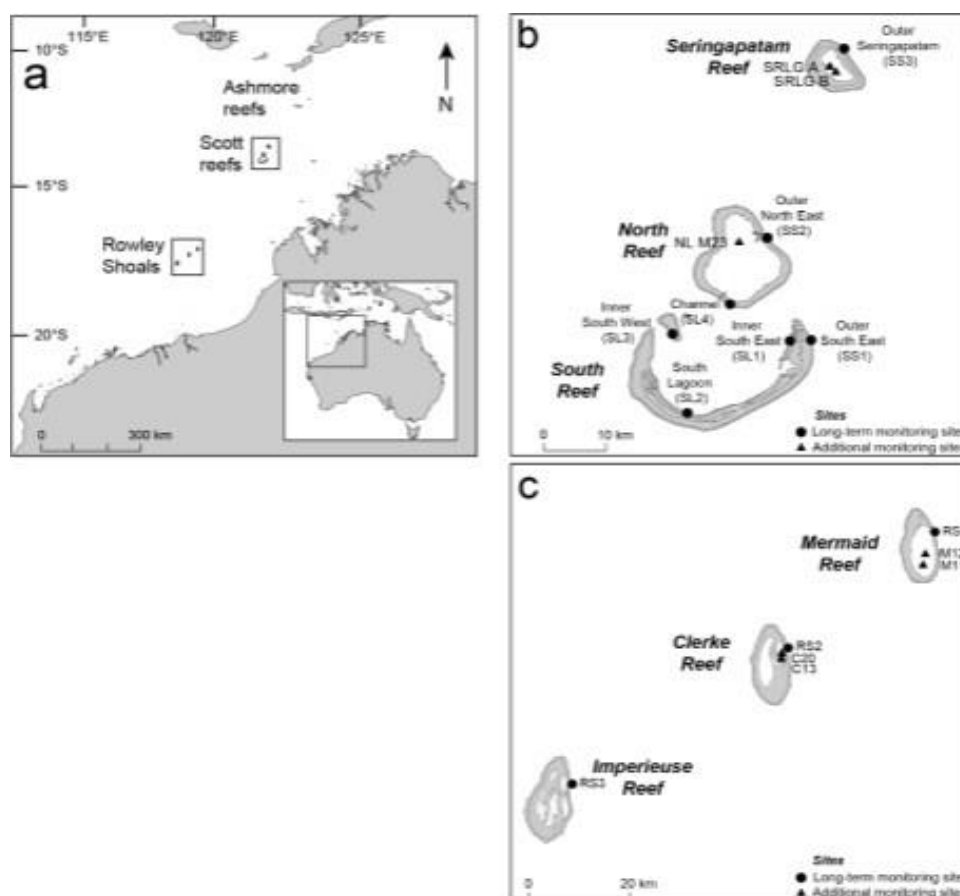


Figure 4-1: The position of Scott Reef, Ashmore and the Rowley Shoals off North-western Australia and location of permanent long-term monitoring sites (source: Gilmour et al., 2023)

Scott Reef is an annular reef approximately 17 km long and 16 km wide comprising two coral reef atolls rising steeply from depths of approximately 400 to 500 m. These atolls, referred to as South Scott Reef and North Scott Reef, are separated by a deep channel (Figure 4-1). North Scott Reef features an emergent reef flat, outer slope habitats and a shallow lagoon approximately 20 m deep with two small channels linking it to the surrounding ocean. The shallow closed waters of North Scott Reef lagoon contain a range of habitats from bare sand, sand with coral outcrops, and to shallow to deep lagoonal coral dominated habitats (Gilmour et al., 2013). This in contrast to the deeper, more open lagoon of South Scott Reef described as an extensive, unique mesophotic (30–70 m depth) coral dominated habitat comprising hard corals, calcareous algae, soft corals, sponges, bryozoans and other invertebrates (Gilmour et al. 2013; Heyward and Radford, 2019). It is largely protected from the direct influence of major storms by the surrounding horseshoe-shaped emergent reef rim (Heyward and Radford, 2019). South Scott Reef shallow water habitats also include reef flats (of low coral cover) and extensive outer reef slopes with the highest hard coral diversity of any habitat at Scott Reef (Gilmour et al., 2013).

Over the past 30 years the coral communities at Scott Reef have been extensively studied and the Scott Reef long-term monitoring program showed that from 1994 to 2021, the mean cover of hard and soft corals on the reef slopes was 36%, and ranged between 13% to 59%. Decreases in coral cover were caused by damaging waves, generated by storms and cyclones, and recurrent heat stress causing coral bleaching. The most severe heat stress and mass coral bleaching occurred in 1998 and 2016. Recovery from the first mass-bleaching event in 1998 took over a decade. By 2010, coral cover had reached pre-bleaching levels (45%). Despite moderate coral bleaching and cyclone disturbances, cover had increased by 49% in January 2016, after which the reefs were impacted by a second mass bleaching event that reduced mean coral cover to 15%. Five years after the 2016 mass bleaching event, total cover of hard and soft corals had reached 34%, showing a similar rate

of recovery to that following the 1998 mass bleaching (Gilmour et al., 2023). The Rowley Shoals comprise three distinct reef continental shelf atolls of similar dimension, shape and orientation, named Mermaid Reef, Clerke Reef and Imperieuse Reef. The reefs are orientated north-south and are approximately 30 to 40 km apart. Each atoll covers an area approximately 80 to 90 km² and extends almost vertically from seafloor depths of approximately 400 m. Each atoll comprises extensive lagoon habitat composed of bare sand, coral dominated patches and coral outcrops, emergent reef crests and outer reef slopes. At high tide only the sandy cays of Clerke Reef and Imperieuse Reef remain visible.

Across the Rowley Shoals, the reef crest and reef slope were most similar and the lagoon most unique in terms of habitat and benthic communities. Hard corals and coralline algae were the most abundant biota (>40%) and other benthic organisms such as sponges, ascidians and macroalgae are rare (<5%). Soft corals were also rare (<1%) at all reefs and habitats, apart from the reef slope (4%) at Mermaid Reef. Across all surveys (1995 to 2019), the mean cover of hard and soft corals at the reef slope was 46% and ranged between 26% and 58%. Decreases in coral cover were primarily due to frequent storms and cyclones. Between 2005 and 2008, three cyclones and moderate heat stress caused a mean reduction in coral cover (52% to 42%) at the reef slope habitat across the Rowley Shoals. Coral bleaching was low (<10%) in January 2016 except for minor to moderate (11 to 30%) bleaching at two lagoon sites at Mermaid Reef. A prolonged heat stress period (45 days) in May 2020 caused the worst coral bleaching on record (approximately 20%) across reef habitats, with the highest heat stress and declines in coral cover at the reef slope for Imperieuse Reef (9%) and minor bleaching and small decreases in coral cover at the reef slope (5%) and lagoon (3%) at Clerke Reef (Gilmour et al., 2023).

The reefs of Seringapatam, Scott Reef, Ashmore Reef and Cartier Island are recognised as key ecological features (KEFs) within NWMR, refer to Table 10-1. Protected Area status (Australian Marine Parks and State Marine Parks and Reserves) is listed and described in Section 11 and includes the Commonwealth Marine Parks of Ashmore Reef, Cartier Island, Kimberley and Mermaid Reef, and the State Marine Parks of the North Kimberley, the Rowley Shoals and Lalang-garram horizontal falls and North Lalang-garram.

4.4.3 North West Shelf / Scarborough

The NWS contains numerous submerged shoal features and as relatively recent surveys have revealed several of these features are of high biodiversity value comprising hard coral and macroalgae communities on upper reaches of the shoals and mesophotic filter-feeding benthic communities in deeper waters on and in proximity to the shoal features, namely, Rankin Bank and Glomar Shoal.

4.4.3.1 Rankin Bank

Rankin Bank comprises three main sedimentary banks rising steeply from between 80 and 120 m below sea level, reaching 20 – 40 m below the sea surface and featuring plateaus and troughs (Abdul Wahab et al., 2018). Rankin Bank is one of only two large, complex bathymetrical features on the outer western shelf of the West Pilbara (the other being Glomar Shoal, about 125 km West-south west) (Abdul Waheb et al., 2018), Figure 4-1.

Surveys of Rankin Bank were undertaken by the Australian Institute of Marine Science (AIMS) in 2013 and in 2017 to better understand the habitats and complexity of the submerged shoal ecosystems, and associated fish assemblages (AIMS, 2014; Abdul Waheb et al., 2018 and 2017; Jones et al., 2021). The surveys were undertaken using various methods, including multibeam survey, towed video, Stereo Baited Underwater Video Survey (SBRUVS) and beam transmissions (to measure turbidity), at depths between 20 and 115 m (Abdul Waheb et al., 2018). Water column data were also collected in January 2017 to examine potential temporal variation in these parameters (Abdul Waheb et al., 2018).

Seabed sediments at Rankin Bank were primarily carbonate with a grain size of mostly sand, with

finer muds found at the deeper sample sites (AIMS, 2014). Sand was also found to increase with depth and unconsolidated reef exceeded 30% at all depths (Abdul Waheb et al., 2018). Hydrocarbon and trace metal concentrations in sediments indicated the bank was unaffected by anthropogenic pollution (AIMS, 2014). Turbidity was lower at Rankin Bank than Glomar Shoal during the survey, with beam transmissions remaining above 95% at all depths (Abdul Waheb et al., 2018). Turbidity was slightly lower in 2017, whereas temperature and salinity were slightly higher at all depths (Abdul Waheb et al., 2018).

Proportion of cover by benthic taxa was highest for macroalgae and hard corals, particularly at depths less than 40 m, and decreased with increasing depth. Other benthic taxa included soft corals and sponges which were present in lower proportions at all depths. Encrusting corals were common, reaching cover of about 12.5% at depths less than 40 m. Solitary corals were also present (about 10% cover) primarily at depths between 40 and 60 m. Foliose and submassive/columnar corals were also present (Abdul Waheb et al., 2018).

Fish abundance and diversity at Rankin Bank were found to be comparable with other reefs in north-west Australia, and notably twice as abundant and 1.5 times more diverse than those fishes identified in a comparable survey at Glomar Shoal (Abdul Waheb et al., 2018). A total of 205 fish species were recorded at Rankin Bank, 100 of which were common to both Glomar Shoal and Rankin Bank. Depth, location, sand, sponges and hard coral were all found to contribute to the fish communities present. Specifically, fish communities were primarily associated with hard coral and shallow depths at Rankin Bank (Abdul Waheb et al., 2018).

4.4.3.2 Glomar Shoal

Glomar Shoal is a large (215 km²) and complex bathymetrical feature situated on the outer continental shelf off the Pilbara. Glomar Shoal is about 8.5 times wider than Rankin Bank at the 60 m contour. Glomar Shoal rises from 80 m depth on its south-west side and 70 m depth on its north-eastern side to form a single plateau at 40 m depth (Abdul Waheb et al., 2018). Together with Rankin Bank, these remote shallow water areas represent regionally unique habitats and are considered likely to play an important role in the productivity of the Pilbara region (AIMS, 2014; Abdul Wahab et al., 2018), Figure 4-1.

Baseline biodiversity and habitat mapping surveys of the benthic habitats and communities at Glomar Shoal and Rankin Bank were undertaken in 2013 and 2017 by AIMS (2014) as detailed in Abdul Waheb et al. (2018) and Jones et al. (2021), respectively. Salinity and temperature were found to be slightly higher in 2017 compared with the 2013 values (Abdul Wahab et al., 2018), most likely due to seasonality. Substrates at Glomar Shoal were found to vary with depth, from coarse unconsolidated sediment at depths greater than 60 m and hard substrate (i.e. consolidate reef) supporting benthic communities comprising hard and soft corals, sponges and macroalgae at depths <40 m (Abdul Wahab et al., 2018). Total cover of benthic taxa (hard coral, soft coral, sponges and other benthic biota) was highest at depths <40 m and decreased with depth (Abdul Wahab et al., 2018). At depths of 60 to 80 m benthic cover was low (about 2%) and at depths greater than 80 m benthic cover was barely present (Abdul Wahab et al., 2018).

A total of 170 fish species were identified at Glomar Shoal and fish abundance and diversity of the demersal fish communities of Glomar Shoal were found to vary with seabed habitat type; sand, hard coral and sponge coverage influenced fish communities, with higher abundance and diversity of fish associated with shallow hard coral habitats. (Abdul Wahab et al., 2018). In general, the fish abundance and diversity of Glomar Shoal are considered comparable with other reefs and the submerged shoals and banks in the region, although less diverse and abundant than fish assemblages at Rankin Bank (Abdul Wahab et al., 2018).

Glomar Shoal is recognised as a KEF within NWMR, refer to Table 10-1. Protected Area status (Australian Marine Parks and State Marine Parks and Reserves) is described in Section 11 and includes the Commonwealth Marine Park of Montebello, and the State Marine Parks of Montebello Islands and Barrow Island and the Barrow Island marine management area.

4.4.4 North-west Cape

Ningaloo Reef and Shark Bay are among Australia's iconic marine areas, and the significance of these ecosystems is recognised through their inclusion in State and Commonwealth Marine Parks and the World Heritage Register. Ningaloo Reef is the only example in the world of an extensive fringing reef on the West coast of a continent and is host to over 200 coral species and more than 500 reef fish species. Shark Bay is the most westerly point of Australia and represents a transition zone between temperate and tropical marine fauna, resulting in high species diversity (Miller et al., 2015), including fringing coral communities on the leeside of the barrier islands of Dirk Hartog, Bernier and Dorre. Ningaloo Reef is one of the longest (approximately 300 km) and most pristine fringing reefs in the world, with an unusually narrow continental shelf. Deep oceanic waters, the reef and coastline habitats and benthic communities are in close proximity resulting in a huge array of internationally significant marine life coexisting. More than 200 hard coral, 500 fish, 650 mollusc, 600 crustacean, 1000 marine algae, 155 sponge and 25 echinoderm species have been recorded from the shelf, slope and deep-water habitats². Refer to the CSIRO Ningaloo Outlook program for further information and publications relating to the shallow and deep-water reef systems, and megafauna species (marine turtles and whale sharks)³.

The extensive reef system has been classified by topography and benthic cover using airborne hyperspectral surveys and much of the area was allocated as shallow, flat lagoons intersected by narrow, deeper channels that facilitate water circulation. Five distinct geomorphic/benthic classes of coral-algae mosaics in different topographic settings: coral and algal communities (reef flat and very shallow areas), coral and algal communities (backreef and shallow forereef), coral and algal communities (deep forereef and other deep areas), sand or limestone pavement (lagoonal slopes and flat lagoon areas) (Kobryn et al., 2022).

Ningaloo and the Muiron Islands fringing reef habitat supports benthic communities dominated by algae and consolidated reef in the shallow reef environment. Surveys conducted by AIMS in 2024 documented hard coral cover averaged approximately 13% across the Ningaloo Marine Park area (Miller et al., 2015). A notable pattern in the benthos recorded by Miller et al. (2015) was an increase in coral cover with latitude, with the highest coral cover recorded around Coral Bay and the reef areas in southern Ningaloo. Coral cover was the lowest at the East Ningaloo Province (northern Exmouth Gulf) (<6%). Relative to Scott Reef and the Rowley Shoals, the Ningaloo benthic communities are distinct in that they are characterised by high biotic cover overall, but dominated by algal cover and with less than half the cover of key biota including hard corals, soft corals and sponges as recorded on offshore reefs (Miller et al., 2015).

Ningaloo Reef is vulnerable to storm damage and marine heat stress events that have resulted in past localised coral damage and moderate coral bleaching. Coral bleaching occurred in 2022 due to warm ocean temperatures driven by the 2021–22 La Niña. The region's last severe marine heatwave was driven by the 2010–11 La Niña, which resulted in bleaching being recorded for the first time on Ningaloo⁴. Also of note is the recurrent deoxygenation events at Bills Bay (Coral Bay) following coral spawning events. In March 2022, the deoxygenation event was triggered by a combination of weather and oceanographic conditions that led to a prolonged trapping of coral spawn in Bills Bay and this in turn caused mass coral mortality and a large but localised fish kill. The 2022 deoxygenation event was the seventh such event recorded in documented history (Richards et al., 2024).

The Shark Bay region is renowned for its terrestrial and marine biodiversity including seagrass cover extending over 4000 km² of the bay and the 1.030 km² Wooramel Seagrass Bank is the largest structure of its type in the world. Baseline surveys conducted in 2014 by AIMS specifically targeted the outer Shark Bay area and the habitats and benthic communities surrounding the barrier islands

² <https://www.dbca.wa.gov.au/management/world-heritage-areas/ningaloo-coast-world-heritage-area#:~:text=One%20of%20the%20longest%20and,life%20coexisting%20in%20one%20area> [accessed on 18/08/2024]

³ <https://research.csiro.au/ningaloo/outlook/research-outputs/publications/>

⁴ <https://www.csiro.au/en/research/environmental-impacts/climate-change/state-of-the-climate>

of Dirk Hartog, Bernier and Dorre. Sand was a dominant feature of the benthos (>60%), particularly in areas inside the bay and in deep water outside the bay. Benthic communities in relatively sheltered areas of outer Shark Bay were characterised by seagrass and turf algae, whereas in more exposed locations, benthos was dominated by macroalgal and turf algal communities. Corals and sponges made up <1% of the cover in outer Shark Bay, although due to inclement weather during surveys shallow areas where coral species are more likely to occur could not be surveyed. Observations of patchy but high coral cover in shallow parts of some towed video transects suggests coral cover across outer Shark Bay may have been underestimated. The highest coral cover was recorded in the channel between Dirk Hartog and Dorre Islands, indicating this area may be particularly favourable for coral growth (Miller et al., 2015).

Commonwealth waters adjacent to Ningaloo Reef is recognised as a KEF within NWMR, refer to Table 10-1. Protected Area status (Australian Marine Parks and State Marine Parks and Reserves) is described in Section 11 and includes the Commonwealth Marine Parks of Ningaloo and Shark Bay, and the State Marine Parks of Ningaloo Reef, the Muiron Islands marine management area, Shark Bay marine park and Hamelin Pool nature reserve.

4.4.5 Shoreline, Coastal Habitats and Biological Communities

The NWMR encompasses offshore and coastal waters, islands and mainland shoreline habitats typified by mangroves, tidal flats, saltmarshes, coral reefs (remote, offshore reef systems to extensive fringing reef systems such as Ningaloo), sandy beaches, and smaller areas of rocky shores. Each of these shoreline types has the potential to support different flora and fauna assemblages due to the different physical factors (e.g. waves, tides, light,) influencing the habitat.

The key shoreline habitats representative of the broader NWMR are summarised in Table 4-1.

The key shoreline habitats representative of the broader SWMR and NMR are summarised in Table 4-2 and Table 4-3.

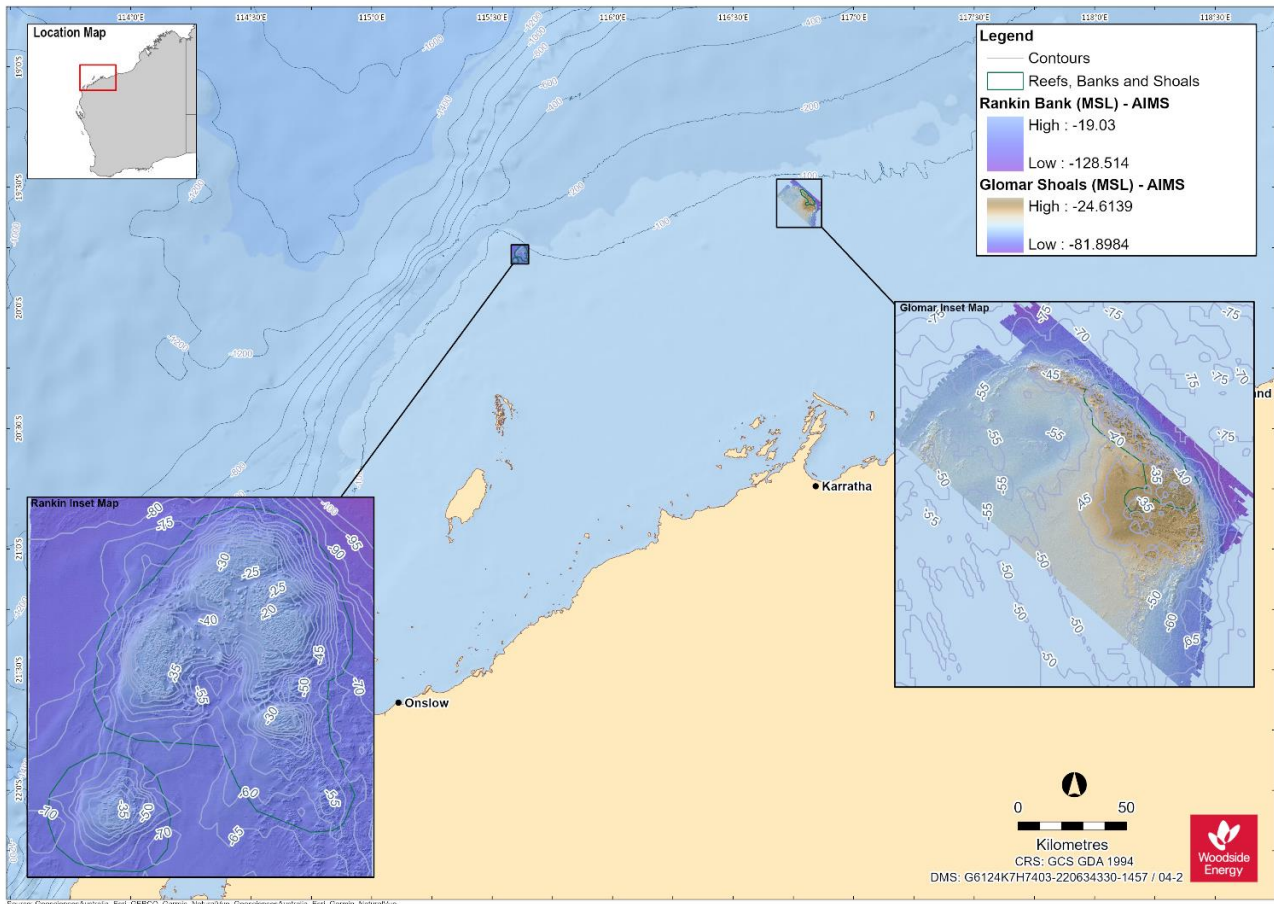


Figure 4-2: Habitat maps of Rankin Bank and Glomar Shoal (source: AIMS, 2014)

Table 4-1: Habitats and biological communities within the NWMR

Habitat/Community	Browse	NWS / Scarborough	North-west Cape	Reference
<i>Offshore habitats and biological communities</i>				
Soft sediment with infauna	The offshore environment of the NWMR comprises predominately of seabed habitats dominated by soft sediments (sandy and muddy substrata with occasional patches of coarser sediments) and sparse benthic biota. The benthic communities inhabiting the predominantly soft, fine sediments of the offshore habitats are characterised by infauna such as polychaetes, and sessile and mobile epifauna such as crustacea (shrimp, crabs and squat lobsters) and echinoderms (starfish, cucumbers). The density of benthic fauna is typically lower in deep-sea sediment habitats (greater than 200 m) than in shallower coastal sediment habitats, but the diversity of communities may be similar.			
Soft sediment with hard substrate outcropping	A unique seafloor feature combining both soft sediment and hard substrates, including outcrops, terraces, continental slope, and escarpments. This habitat is found in offshore areas of the NWMR, often associated with key ecological features such as the ancient coastline at 125 m depth contour KEF.			Section 10
	Ancient coastline at 125 m depth contour KEF Continental Slope Demersal Fish Communities KEF	Ancient coastline at 125 m depth contour KEF Continental Slope Demersal Fish Communities KEF	Ancient coastline at 125 m depth contour KEF Continental Slope Demersal Fish Communities KEF	Section 10
Coral reef	Coral reef habitats within the NWMR have a high species diversity that includes corals, and associated reef species such as fishes, crustaceans, invertebrates, and algae. Coral reef habitats of the offshore environment of the NWMR include remote oceanic reef systems, large platform reefs, submerged banks and shoals.			
	Browse Island Scott Reef Seringapatam Reef Ashmore Reef Cartier Island Hibernia Reef	Rowley Shoals (including Mermaid Reef, Clerke Reef, Imperieuse Reef) Glomar Shoal Rankin Bank		Section 4.4.1 Section 10 Section 11
Seagrass and macroalgae communities	Seagrass beds and benthic macroalgae reefs are a main food source for many marine species and also provide key habitats and nursery grounds (Heck et al., 2003; Wilson et al., 2010). In the northern half of Western Australia, these habitats are restricted to sheltered and shallow waters, including around offshore reef systems, due to large tidal movement, high turbidity, large seasonal freshwater run-off and cyclones.			
	Scott Reef, Seringapatam Reef, Ashmore Reef	Rowley Shoals (including Mermaid Reef, Clerke Reef, Imperieuse Reef)		Section 11

Habitat/Community	Browse	NWS / Scarborough	North-west Cape	Reference
Filter feeders/ heterotrophic	Filter feeder epifauna such as sponges, ascidians, soft corals and gorgonians are animals that feed by actively filtering suspended matter and food particles from water by passing the water over specialised filtration structures (DEWHA, 2008). Filter feeders generally live in areas that have strong currents and hard substratum, often associated with deeper environments of the shoals and banks in the offshore NWMR.			
	Lower outer reef slopes of the oceanic reef systems such as Scott Reef	Glomar Shoal Rankin Bank Ancient coastline at 125 m depth contour KEF	Cape Range canyon system	Section 4.4.1 Section 10 Section 11
Sandy beaches	Sandy beaches are dynamic environments, naturally fluctuating in response to external forcing factors (e.g. waves, currents, etc). Sandy beaches vary in length, width and gradient, and in sediment type, composition, and grain size throughout the NWMR, being found around islands and reefs in the offshore areas of the region.			
	Browse Island Scott Reef (Sandy Islet) Ashmore Reef Cartier Island	Montebello Islands Lowendal Islands Barrow Island	Muiron Islands	Section 11
<i>Nearshore/coastal habitats and biological communities</i>				
Coral reef	Coral reef habitats typically found in nearshore regions of the NWMR include the fringing reefs around coastal islands and the mainland shore.			
	Kimberley East Holothuria and Long Reefs Bonaparte and Buccaneer Archipelagos Montgomery Reef Adele complex (Beagle, Mavis, Albert, Churchill reefs, Adele Island)	Dampier Archipelago Montebello, Lowendal and Barrow Island Groups	Ningaloo Reef Exmouth Gulf Shark Bay	Section 11
Seagrass and macroalgae communities	Seagrass beds and benthic macroalgae reefs are a main food source for many marine species and also provide key habitats and nursery grounds (Heck Jr. et al., 2003; Wilson et al., 2010). In the nearshore areas of the NWMR, these habitats are restricted to sheltered and shallow waters due to large tidal movement, high turbidity, large seasonal freshwater run-off and cyclones. These areas include in bays and sounds and around reef and island groups.			
	King Sound	Roebuck Bay Dampier Archipelago Montebello, Lowendal and Barrow Island Groups	Ningaloo Reef Exmouth Gulf Shark Bay	Section 11

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Habitat/Community	Browse	NWS / Scarborough	North-west Cape	Reference
Filter feeders/ heterotrophic	Filter feeder epifauna such as sponges, ascidians, soft corals and gorgonians are animals that feed by actively filtering suspended matter and food particles from water by passing the water over specialised filtration structures (DEWHA, 2007a). Filter feeders generally live in areas that have strong currents and hard substratum. Conversely, higher diversity infauna is mainly associated with soft unconsolidated sediment and infauna communities are considered widespread and well represented along the continental shelf and upper slopes of the NWMR. In nearshore areas of the NWMR, these species are generally found around reef systems.			
		Deeper habitats of Rankin Bank and Glomar Shoal	Deeper habitats of Ningaloo Reef and the protected sponge zone in the south	
Mangroves	Mangroves grow in intertidal mud and sand, with specially adapted aerial roots (pneumatophores) that provide for gas exchange during low tide (McClatchie et al., 2006). Mangrove forests can help stabilise coastal sediments, provide a nursery ground for many species of fish and crustacean, and provide shelter or nesting areas for seabirds (McClatchie et al., 2006). Mangroves are confined to shoreline habitats, in nearshore areas of the NWMR.			
	Dampier Peninsula (including Carnot Bay, Beagle Bay and Pender Bay)	Pilbara Coastline (including Ashburton River Delta, Coolgra Point, Robe River Delta, Yardie Landing, Yammadery Island and the Mangrove Islands) Montebello, Lowendal and Barrow Island Groups Roebuck Bay	Shark Bay Mangrove Bay, Cape Range Peninsula Exmouth Gulf	Section 11
Saltmarshes	Saltmarsh communities are confined to shoreline habitats and are typically dominated by dense stands of halophytic plants such as herbs, grasses, and low shrubs. The diversity of saltmarsh plant species increases with increasing latitude (in contrast to mangroves). The vegetation in these environments is essential to the stability of the saltmarsh, as they trap and bind sediments. The sediments are generally sandy silts and clays and can often have high organic material content.			
		Eighty Mile Beach Roebuck Bay	Shark Bay	Section 11
Sandy beaches	Sandy beaches are dynamic environments, naturally fluctuating in response to external forcing factors (e.g. waves, currents, etc). Sandy beaches vary in length, width and gradient, and in sediment type, composition, and grain size throughout the NWMR. Sandy beaches are important for both resident and migratory seabirds and shorebirds and can also provide an important habitat for turtle nesting and breeding. They are located along many coastlines of the nearshore environments of the NWMR.			
	Cape Domett Lacrosse Island	Eighty Mile Beach Eco Beach Dampier Archipelago Inshore Pilbara Islands (Northern, Middle, and Southern)	Ningaloo Coast Muiron Islands Exmouth Gulf	Section 11

Table 4-2: Habitats within the SWMR

Habitat/Community	Location
Offshore	
Soft sediment with infauna	Most of the SWMR seafloor is composed of soft unconsolidated sediments, but due to large variations in bathymetry there are marked differences in sedimentary composition and benthic assemblage structure across the region. Despite the prevalence of these habitats in the SWMR, very little is known about the composition or distribution of the region's sedimentary infauna (DEWHA, 2008b).
Soft sediment with hard substrate outcropping	A unique seafloor feature combining both soft sediment and hard substrates, including outcrops, terraces, continental slope, and escarpments. Perth Canyon Marine Park Ancient coastline at 90 to 120 m depth contour KEF Diamantina Fracture Zone Naturaliste Plateau
Coral reef	To date, studies and understanding of the corals within the SWMR have concentrated on the shallow water areas in State waters. Within the deeper Commonwealth waters of the SWMR little is known of the distribution of corals.
Filter feeders/ heterotrophic	Filter feeder epifauna such as sponges, ascidians, soft corals and gorgonians are animals that feed by actively filtering suspended matter and food particles from water by passing the water over specialised filtration structures (DEWR, 2007). Filter feeders generally inhabit deeper habitat (below the photic zone) that have strong currents and hard substratum. Ancient coastline at 90 to 120 m depth Diamantina Fracture Zone Naturaliste Plateau Perth Canyon Marine Park South-west Corner Marine Park
Nearshore	
Coral reef	The northern extent of the SWMR coincides loosely with the disappearance of abundant and diverse coral from coastal habitats. To the south of Shark Bay, abundant corals occur predominantly around offshore islands, with corals at inshore sites occurring in very isolated patches of non-reef coral communities, usually of reduced species richness. Houtman Abrolhos Islands Rottnest Island

Habitat/Community	Location
Seagrass and macroalgae communities	Within the SWMR, macroalgae and seagrass communities are noted for their extent, species richness and endemism. The clear waters of the region allow light to reach greater depths, with some species found at much greater depths than usual (down to 120 m) (DEWR, 2007). Of the known species there are more than 1000 species of macro-algae and 22 species of seagrass consisting of tropical and temperate species. Seagrass and macro-algae occur in areas with sheltered bays and in the inter-reef lagoons along exposed sections of the coast.
	Houtman Abrolhos Islands Jurien Marine Park Shoalwater Islands Marine Park Geographe Marine Park Cockburn Sound Rottnest Island Commonwealth marine environment within and adjacent to the West-coast inshore lagoons KEF Commonwealth marine environment within and adjacent to Geographe Bay KEF Commonwealth marine environment surrounding the Recherche Archipelago KEF
Filter feeders/ heterotrophic	Filter feeder epifauna such as sponges, ascidians, soft corals and gorgonians are animals that feed by actively filtering suspended matter and food particles from water by passing the water over specialised filtration structures (DEWR, 2007). Filter feeders generally live in areas that have strong currents and hard substratum.
	Houtman Abrolhos Islands Recherche Archipelago
Mangroves	Mangroves grow in intertidal mud and sand, with specially adapted aerial roots (pneumatophores) that provide for gas exchange during low tide (McClatchie et al., 2006). Mangrove forests can help stabilise coastal sediments, provide a nursery ground for many species of fish and crustacean, and provide shelter or nesting areas for seabirds (McClatchie et al., 2006). Mangroves are confined to shoreline habitats, in nearshore areas of the SWMR.
	Houtman Abrolhos Islands
Sandy beaches	Sandy beaches within the SWMR are important for both resident and migratory seabirds and shorebirds and can also host breeding populations of the Australian sea lion. They are found along many coastlines of the nearshore environments of the SWMR. In addition to this, beaches in the SWMR provide a variety of socio-economic values including tourism, commercial and recreational fishing, and support other recreational activities.
	Houtman Abrolhos Islands Marmion Marine Park Ngari Capes Marine Park Walpole and Nornalup Inlets Marine Park

Table 4-3: Habitats and biological communities within the NMR

Habitat/Community	Location
<i>Offshore habitats and biological communities</i>	
Soft sediment with infauna	Most of the offshore environment of the NMR is characterised by relatively flat expanses of soft sediment seabed. The soft sediments of the region are characterised by moderately abundant and diverse communities of infauna and mobile epifauna dominated by polychaetes, crustaceans, molluscs, and echinoderms.
Soft sediment with hard substrate outcropping	A unique seafloor feature combining both soft sediment and hard substrates, including outcrops, terraces, continental slope, and escarpments. The variability in substrate composition may contribute to the presence of unique ecosystems. Species present include sponges, soft corals and other sessile filter feeders associated with hard substrate sediments.
	Carbonate bank and terrace system of the Van Diemen Rise KEF Pinnacles of the Bonaparte Basin KEF
Coral reef	Offshore coral reefs within the NMR are generally associated with a series of submerged shoals and banks. The shoals/banks in the region support tropical marine biota consistent with that found on emergent reef systems of the Indo West Pacific region such as Ashmore Reef, Cartier Island, Seringapatam Reef and Scott Reef (Heyward et al., 1997).
	Pinnacles of the Bonaparte Basin KEF Evans Shoal Tassie Shoal Blackwood Shoal
Filter feeders/ heterotrophic	Filter feeder epifauna such as sponges, ascidians, soft corals and gorgonians are animals that feed by actively filtering suspended matter and food particles from water by passing the water over specialised filtration structures (DEWHA, 2007b). Filter feeders generally live in areas that have strong currents and hard substratum and typically associated with the deeper habitats of the submerged shoals and banks, and canyon features.
	Carbonate bank and terrace system of the Van Diemen Rise KEF Pinnacles of the Bonaparte Basin KEF Tributary Canyons of the Arafura Depression KEF Evans Shoal Tassie Shoal Goodrich Bank

Habitat/Community	Location
Nearshore	
Coral reef	Within the NMR corals occur both as reefs and in non-reef coral communities. Nearshore reefs include patch reefs and fringing reefs sparsely distributed within the region. Coral reefs within the NMR provides breeding and aggregation areas for many fish species including mackerel and snapper and offer refuges for sea snakes and apex predators such as sharks.
	Submerged coral reefs of the Gulf of Carpentaria KEF Darwin Harbour
Seagrass and macroalgae communities	Seagrasses provide key habitats in the NMR. They stabilise coastal sediments and trap and recycle nutrients. They provide nursery grounds for commercially harvested fish and prawns and provide feeding grounds for dugongs and green turtles. Seagrass distribution in the region is largely associated with sheltered small bays and inlets including shallow waters surrounding inshore islands.
	Field Island The mainland coastline adjacent to Kakadu National Park
Filter feeders/ heterotrophic	Filter feeder epifauna such as sponges, ascidians, soft corals, and gorgonians are animals that feed by actively filtering suspended matter and food particles from water by passing the water over specialised filtration structures (DEWHA, 2007b). Filter feeders generally inhabit areas that have strong currents and hard substratum.
	Cape Helveticus
Mangroves	Mangroves grow in intertidal mud and sand, with specially adapted aerial roots (pneumatophores) that provide for gas exchange during low tide (McClatchie et al., 2006). Mangroves provide habitat for waterbirds and support many commercially and recreationally important fish and crustacean species for parts of their life cycles. They buffer the coast from large tidal movements, storm surges and flooding.
	Tiwi Islands Darwin Harbour The mainland coastline adjacent to the Daly River
Sandy beaches	Sandy beaches vary in length, width and gradient, and in sediment type, composition, and grain size throughout the NMR and are important for both resident and migratory seabirds and shorebirds. Sandy beaches can also provide an important habitat for turtle nesting. They are located along many coastlines of the nearshore environments of the islands and mainland shores of the NMR.
	Tiwi Islands Cobourg Peninsula Joseph Bonaparte Gulf

5. FISHES, SHARKS AND RAYS

5.1 Regional Context

Western Australian waters provide important habitat for listed fishes, sharks, and rays including areas that support key life stages such as breeding, foraging, and migration routes for fish species. Pelagic and demersal fishes occupy a range of habitats throughout each of the regions, from coral reefs to open offshore waters, and are an extremely important component of ecosystems, providing a link between primary production and higher predators, with many species being of conservation value and important for commercial and recreational fishing.

The NWMR supports a wide diversity of global fish species. Of the approximately 500 shark species found worldwide, 94 are found in the region (DEWHA, 2008). Approximately 54 species of syngnathids (seahorses, seadragons, pipehorses and pipefishes) and one species of solenostomids (ghostpipefishes) are also known to occur in the NWMR or adjacent State waters (DSEWPAC, 2012a).

The fish fauna of the SWMR includes more than 900 species occupying a large variety of habitats. However, only three species of bony fishes known to occur in the region are listed under the EPBC Act as threatened or marine species, and seven listed species of shark (DSEWPAC, 2012b).

The NMR is considered an important area for the sawfish and river shark species group, with five species of sawfishes and river sharks listed under the EPBC Act known to occur in the region (DSEWPAC, 2012c). Approximately 28 species of syngnathids and two species of solenostomids are listed marine and known to occur in the NMR, however there is a paucity of knowledge on the distribution, relative abundance and habitats of these species in the region (DEWHA, 2008).

The following sections focus on the fish species (including sharks and rays) listed as threatened or migratory that are known to occur within the NWMR. In addition, listed, conservation-dependent fish and shark species for the NWMR are described. A detailed account of commercial and recreational fisheries that operate in the region is provided in Section 12.

Table 5-1 outlines the threatened and migratory fish species that may or are known to occur within the NWMR, with their conservation status and relevant recovery plans and/or conservation advice.

Table 5-2 includes fish species listed as conservation dependent that may occur within the NWMR, NMR and SWMR.

Table 5-1: Fish species (including sharks and rays) identified by the EPBC Act PMST that may occur within the NWMR

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report Appendix A)			Biodiversity Conservation Act 2016 (WA) ⁵	IUCN Red List of Threatened Species (non-statutory) ⁶	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
<i>Rhincodon typus</i>	Whale shark	Vulnerable	Migratory	Marine	Migratory	Endangered	Conservation Advice <i>Rhincodon typus</i> whale shark. (Threatened Species Scientific Committee, 2015d)
<i>Carcharias taurus</i>	Grey nurse shark (west-coast population)	Vulnerable	N/A	Marine	Vulnerable	Critically Endangered	Recovery Plan for the Grey Nurse Shark (<i>Carcharias taurus</i>) (DOE, 2014)
<i>Carcharodon carcharias</i>	White shark	Vulnerable	Migratory	Marine	Vulnerable	Vulnerable	Recovery Plan for the White Shark (<i>Carcharodon carcharias</i>) (DSEWPAC, 2013b)
<i>Isurus oxyrinchus</i>	Shortfin mako	N/A	Migratory	Marine	Migratory	Endangered	N/A
<i>Isurus paucus</i>	Longfin mako	N/A	Migratory	Marine	Migratory	Endangered	N/A
<i>Lamna nasus</i>	Porbeagle shark, mackerel shark	N/A	Migratory	Marine	Migratory	Vulnerable	N/A
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	N/A	Migratory	Marine	N/A	Critically Endangered	N/A
<i>Anoxypristis cuspidata</i>	Narrow sawfish	N/A	Migratory	Marine	Migratory	Critically Endangered	N/A
<i>Pristis clavata</i>	Dwarf sawfish	Vulnerable	Migratory	Marine	Priority	Critically Endangered	Sawfish and River Sharks Multispecies Recovery Plan (Commonwealth of Australia, 2015b)
<i>Pristis pristis</i>	Large-tooth (freshwater) sawfish	Vulnerable	Migratory	Marine	Priority	Critically Endangered	
<i>Pristis zijsron</i>	Green sawfish	Vulnerable	Migratory	Marine	Vulnerable	Critically Endangered	

⁵ Threatened and Priority Fauna List – April 2024 - <https://www.dbca.wa.gov.au/management/threatened-species-and-communities> (accessed on 13/08/2024)⁶ IUCN. 2024. The IUCN Red List of Threatened Species. Version 2024-1. <https://www.iucnredlist.org> (accessed on 13/08/2024)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report Appendix A)			Biodiversity Conservation Act 2016 (WA) ⁵	IUCN Red List of Threatened Species (non-statutory) ⁶	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
<i>Glyphis garricki</i>	Northern river shark	Endangered	N/A	Marine	Priority	Vulnerable	
<i>Manta alfredi</i>	Reef manta ray	N/A	Migratory	Marine	Migratory	Vulnerable	N/A
<i>Manta birostris</i>	Giant manta ray	N/A	Migratory	Marine	Migratory	Endangered	N/A

Table 5-2: EPBC Act listed Conservation Dependent species of fishes and sharks that may occur in the NWMR, NMR and SWMR

Species Name	Common Name	Likely Occurrence / Distribution	Listing Advice
<i>Hoplostethus atlanticus</i>	Orange roughy, deep-sea perch, red roughy	SWMR	No conservation listing advice for this species. Refer to the Marine bioregional plan for the SWMR (DSEWPAC, 2012b) for further information. Managed under AFMA's Orange Roughy Stock Rebuilding Strategy (AFMA, 2014).
<i>Sphyrna lewini</i>	Scalloped hammerhead	NWMR, NMR and SWMR ⁷	Threatened Species Scientific Committee, 2018.
<i>Galeorhinus galeus</i>	School shark, eastern school shark, snapper shark, tope, soupfin shark	SWMR	Threatened Species Scientific Committee, 2009.
<i>Centrophorus uyato</i>	Little gulper shark	NWMR and SWMR	No conservation listing advice for this species. Refer to listing advice (Threatened Species Scientific Committee, 2013).

⁷ A recurrent aggregation of scalloped hammerheads has been recorded within the Shoalwater Islands Marine Park (32° S; 115° E), 240 km south of Jurien Bay, observed from drone footage collected during the 2019 and 2020 Austral summers. The species has rarely been recorded south of Jurien Bay previously (López et al., 2022).

5.2 Protected Sharks, Sawfishes and Rays in the NWMR

The EPBC Act Protected Matters search (Appendix A) identified seven species of shark and five species of river shark or sawfish listed as threatened and/or migratory within the NWMR. In addition, two species of ray (the reef manta ray and giant manta ray) are listed as migratory within the region (Table 5-3).

5.2.1 Sharks and Sawfishes

The shark species that may or are known to occur within the NWMR include: the whale shark, grey nurse shark, white shark, shortfin mako, and longfin mako (Table 5-3).

Five species of river shark or sawfish that may or are known to occur in the NWMR include: the narrow sawfish, northern river shark, freshwater sawfish, green sawfish and dwarf sawfish (Table 5-3).

There are identified biologically important areas (BIAs) within the NWMR for the whale shark, freshwater sawfish, green sawfish, and dwarf sawfish (Table 5-5).

Table 5-3: Information on the EPBC-listed threatened shark, fish and sawfish species that may or are known to occur within the NWMR

Species	Preferred Habitat and Diet	Habitat Location
Whale shark	Preferred habitat: They have a widespread distribution in tropical and warm temperate seas, throughout oceanic and coastal Australian waters (Last and Stevens, 2009). Diet: Whale shark are planktivorous and feed on a variety of planktonic species including krill, jellyfish, and crab larvae (Last and Stevens, 2009).	Ningaloo Reef is the main known aggregation site for whale sharks in Australian waters and has the largest density of whale sharks per kilometre in the world (Martin, 2007). Acoustically tagged whale sharks have been detected on the NWS in June, July and October–January (Thomson et al. 2021). Satellite tagging and sightings of whale sharks off the Western Australian coast indicate that whilst whale sharks aggregate in higher numbers at Ningaloo Reef seasonally, they may be present year-round (Norman et al., 2017). Refer Table 5-5 for the BIA summary for the whale shark.
Grey nurse shark (west-coast population)	Preferred habitat: Most found in temperate waters on, or close to, the bottom of the continental shelf, from close inshore to depths of about 200 m (McAuley, 2004; Kyne et al., 2021). Diet: A variety of teleost and elasmobranch fishes and some cephalopods (Gelsleichter et al., 1999; Smale, 2005).	Details of movement patterns of the western sub-population are unclear (McAuley, 2004) and key aggregation sites have not been formally identified within the NWMR (Chidlow et al., 2006). The NWMR represents the northern limit of the West-coast population. Sighting and bycatch data have indicated grey nurse sharks are present near Exmouth and Shark Bay between May to December (Hoschke et al., 2023).
White shark	Preferred habitat: The species typically occurs in temperate coastal waters between the shore and the 100 m depth contour; however, adults and juveniles have been recorded diving to depths of 1000 m (Bruce et al., 2006; Bruce, 2008). Diet: Smaller white sharks (less than 3 m length) feed primarily on teleost and elasmobranch fishes, broadening their diet as larger sharks to include marine mammals (Last and Stevens, 2009).	There are no known aggregation sites for white sharks in the NWMR, and this species is most often found south of North-west Cape, in low densities (DSEWPAC, 2012a). Given the migratory nature of the species, it most likely has a broad distribution within the NWMR. No BIAs identified for NWMR.

Species	Preferred Habitat and Diet	Habitat Location
Shortfin mako	Preferred habitat: The shortfin mako shark is a pelagic species with a circumglobal, wide-ranging oceanic distribution in tropical and temperate seas (Mollet et al., 2000). Tagging studies indicate shortfin makos spend most of their time in water less than 50 m deep but with occasional dives up to 880 m (Abascal et al., 2011; Stevens et al., 2010). Satellite telemetry data suggest shortfin makos have multiple movement phases, displaying both high connectivity between Australian populations and periods of residency (Corrigan et al., 2018). Diet: Feeds on a variety of prey, such as teleost fishes, other sharks, marine mammals, and marine turtles (Campana et al., 2005).	Given the migratory nature of the species, it most likely has a broad distribution within the NWMR. No BIAs identified for NWMR.
Longfin mako	Preferred habitat: A pelagic species with a wide-ranging, patchy, oceanic distribution in tropical and temperate seas (Mollet et al., 2000; Kyne et al., 2021). They have been recorded at depth ranges of 0–1752 m (Kyne et al., 2021). Diet: Primarily teleost fishes and cephalopods (primarily squid) (Last and Stevens, 2009).	Records on longfin mako sharks are sporadic and their complete geographic range is not well known (Reardon et al., 2006). Given the migratory nature of the species, most likely has a broad distribution within the NWMR. No BIAs identified for NWMR.
Mackerel/ porbeagle shark	Preferred habitat: The porbeagle shark primarily inhabits offshore waters around the edge of the continental shelf. They occasionally move into coastal waters, but these movements are temporary (Campana and Joyce, 2004; Francis et al., 2002). The porbeagle shark is known to dive to depths exceeding 1300 m (Campana et al., 2010; Saunders et al., 2011). Depth range records are 0–370 m (Kyne et al., 2021). Diet: Primarily teleost fish, elasmobranchs, and cephalopods (primarily squid) (Joyce et al., 2002; Last and Stevens, 2009).	In Australia, the species occurs in waters from southern Queensland to South-west Australia (Last and Stevens, 2009). Distribution within the NWMR is unknown, but there are several records for this species within the NWS (Atlas of Living Australia (ALA)).
Oceanic whitetip shark	Preferred habitat: The oceanic whitetip shark is globally distributed in warm-temperate and tropical oceans (Andrzejczek et al., 2018). The species may occur in tropical and sub-tropical offshore and coastal waters around Australia. They primarily occupy pelagic waters in the upper 200 m of the water column; however, they have been observed diving to depths of around 1000 m, potentially associated with foraging behaviour (Howey-Jordan et al., 2013; D'Alberty et al., 2017). The species is highly migratory, travelling large distances between shallow reef habitats in coastal waters and oceanic waters (Howey-Jordan et al., 2013). The species does exhibit a strong preference for warm and shallow waters above 120 m. Diet: Opportunistic feeders and generally target a variety of finfishes and pelagic squid, depending on habitat. Targets pelagics such as tuna in open ocean as noted by the large bycatch numbers in the long line fisheries.	Given the migratory nature of the species, it most likely has a broad distribution within the NWMR. No BIAs identified for NWMR.

Species	Preferred Habitat and Diet	Habitat Location
Narrow sawfish	Preferred habitat ¹ : Shallow coastal, estuarine, and riverine habitats, however it may occur in waters up to 40 m deep (D'Anastasi et al., 2013). Diet: Shoaling fishes, such as mullet, as well as molluscs and small crustaceans (Cliff and Wilson, 1994).	Shallow coastal waters of the Pilbara and Kimberly coasts (Last and Stevens, 2009).
Northern river shark	Preferred habitat ¹ : Rivers, tidal sections of large tropical estuarine systems and macrotidal embayments, as well as inshore and offshore marine habitats (Pillans et al., 2009; Thorburn and Morgan, 2004). Adults have been recorded only in marine environments. Juveniles and sub-adults have been recorded in freshwater, estuarine and marine environments (Pillans et al., 2009). Depth range of up to 23 m (Kyne et al., 2021). Diet: Variety of fish and crustaceans (Stevens et al., 2005).	The northern river shark has a relatively restricted northern Australian range (although with an extent of occurrence >20,000 km ²) (Kyne et al., 2021). Within the NWMR records have come from both the West and East Kimberley, including King Sound, the Ord and King rivers, West Arm of Cambridge Gulf and also from Joseph Bonaparte Gulf (Thorburn and Morgan, 2004; Stevens et al., 2005; Thorburn, 2006; Field et al., 2008; Pillans et al., 2008, Whitty et al., 2008; Wynen et al., 2008).
Large-tooth (freshwater) sawfish	Preferred habitat: Sandy or muddy bottoms of shallow coastal waters, estuaries, river mouths and freshwater rivers, and isolated water holes. Diet: Shoaling fishes, such as mullet, as well as molluscs and small crustaceans (Cliff and Wilson, 1994).	The large-tooth sawfish has a wide Northern Australia range (Kyne et al., 2021). The Kimberley region, particularly the Fitzroy River, is identified as an important nursery site (Bateman et al. 2024). The Exmouth Gulf represents the approximate southern limit for the large-tooth (freshwater) sawfish, although there are a few historical records further south (Bateman et al., 2024). Refer to Table 5-5 for the BIA summary for the Large-tooth (freshwater) sawfish.
Green sawfish	Preferred habitat ¹ : Inshore coastal environments including estuaries, river mouths, embayments, and along sandy and muddy beaches, as well as offshore marine habitat (Stevens et al., 2005; Thorburn et al., 2003). They are found at depths of up to 70 m (Kyne et al., 2021). Diet: Schools of baitfish and prawns (Pogonoski et al., 2002), molluscs and small crustaceans (Cliff and Wilson, 1994).	An aggregation of green sawfish (<i>Pristis zijsron</i>) has been identified in the Garig Gunak Barlu National Park (Cobourg Peninsula, NMR). Davies et al. (2022) suggests this may be a nursery area. The Ashburton River Estuary (Onslow region) has been recorded as a nursery site, with juveniles also observed along the Pilbara coast and Exmouth Gulf (Bateman et al., 2024). Refer Table 5-5 for the BIA summary for the green sawfish.
Dwarf sawfish	Preferred habitat ¹ : Shallow (up to 20 m) silty coastal waters and estuarine habitats, occupying relatively restricted areas and moving only small distances (Stevens et al., 2008; Kyne et al., 2015). Diet: Shoaling fish such as mullet, molluscs, and small crustaceans (Cliff and Wilson, 1994).	Literature indicates the most southern range for the dwarf sawfish is Port Hedland (Bateman et al., 2024). Refer Table 5-5 for the BIA summary for the dwarf sawfish.

¹ Preferred habitat as described within the *Sawfish and River Sharks Multispecies Recovery Plan (Commonwealth of Australia, 2015b)*.

5.2.2 Rays

Rays are commonly found in the NWMR. Two listed and migratory species of ray are known to occur within the NWMR: the reef manta ray and giant manta ray.

No BIAs for either the reef or giant manta ray species have been identified in the NWMR.

Table 5-4: Information on migratory ray species within the NWMR

Species	Preferred Habitat and Diet	Habitat Location
Reef manta ray	Preferred habitat: The reef manta ray is commonly sighted within productive nearshore environments, such as island groups, atolls or continental coastlines. However, the species has also been recorded at offshore coral reefs, rocky reefs, and seamounts (Marshall et al., 2009). Recorded depth range of 0–432 m (Kyne et al., 2021). Diet: Feed on planktonic organisms including krill and crab larvae.	A resident population of reef manta rays has been recorded at Ningaloo Reef. No BIAs identified for NWMR.
Giant manta ray	Preferred habitat: The species primarily inhabits near-shore environments along productive coastlines with regular upwelling, but they appear to be seasonal visitors to coastal or offshore sites including offshore island groups, offshore pinnacles and seamounts (Marshall et al., 2011). Recorded depth range of up to 1000 m (Kyne et al., 2021). Diet: Feed on planktonic organisms including krill and crab larvae.	The Ningaloo coast is an important area for giant manta rays from March to August (Preen et al., 1997). No BIAs identified for NWMR.

5.3 Fish, Shark and Sawfish Biological Important Areas in the NWMR

A review of the Australian Marine Spatial Information System (GA, 2024) identified biologically important areas (BIAs) for four species of fish, shark and sawfish (whale shark, largetooth (freshwater) sawfish, green sawfish and dwarf sawfish) within the NWMR. The BIAs for the whale shark and the sawfish species include foraging, nursing, juvenile and pupping areas. These are described in Table 5-5.

Table 5-5: Fish, whale shark and sawfish BIAs within the NWMR (source: AMSIS, accessed 14/08/2024)

	Woodside Activity Area			BIAs			
	Browse	NWS	NWC	Reproduction - Pupping	Reproduction - Nursing	Juvenile	Foraging
Whale shark	✓	✓	✓	No pupping BIA identified within the NWMR	No nursing BIA identified within the NWMR	N/A	Foraging (high density) in Ningaloo Marine Park and adjacent Commonwealth waters (Mar–Jul) Foraging northward from Ningaloo along the 200 m isobath (Jul–Nov).
Green sawfish	✓	✓	-	Pupping in Cape Keraudren (pupping occurs in summer in a narrow area adjacent to shoreline) Pupping in Willie Creek Pupping in Roebuck Bay Pupping in Cape Leveque Pupping in waters adjacent to Eighty Mile Beach Pupping (likely) in Camden Sound	Nursing in Cape Keraudren Nursing in waters adjacent to Eighty Mile Beach	No juvenile BIA identified within the NWMR.	Foraging in Cape Keraudren Foraging in Roebuck Bay Foraging in Cape Leveque Foraging in Camden Sound
Large-tooth (freshwater) sawfish	✓	✓	-	Pupping in the mouth of the Fitzroy River (Jan–May) Roebuck Bay (Jan–May) Pupping likely in waters adjacent to Eighty Mile Beach (Jan–May)	Nursing (likely) in King Sound	Waters adjacent to Eighty Mile Beach Roebuck Bay	Foraging in the mouth of the Fitzroy River (Jan–May) Foraging in King Sound Roebuck Bay (Jan–May) Foraging in waters adjacent to Eighty Mile Beach
Dwarf sawfish	✓	✓	-	Pupping in King Sound Pupping in waters adjacent to Eighty Mile Beach	Nursing in King Sound Nursing waters adjacent to Eighty Mile Beach	King Sound	Foraging in King Sound Foraging in Camden Sound Foraging in waters adjacent to Eighty Mile Beach

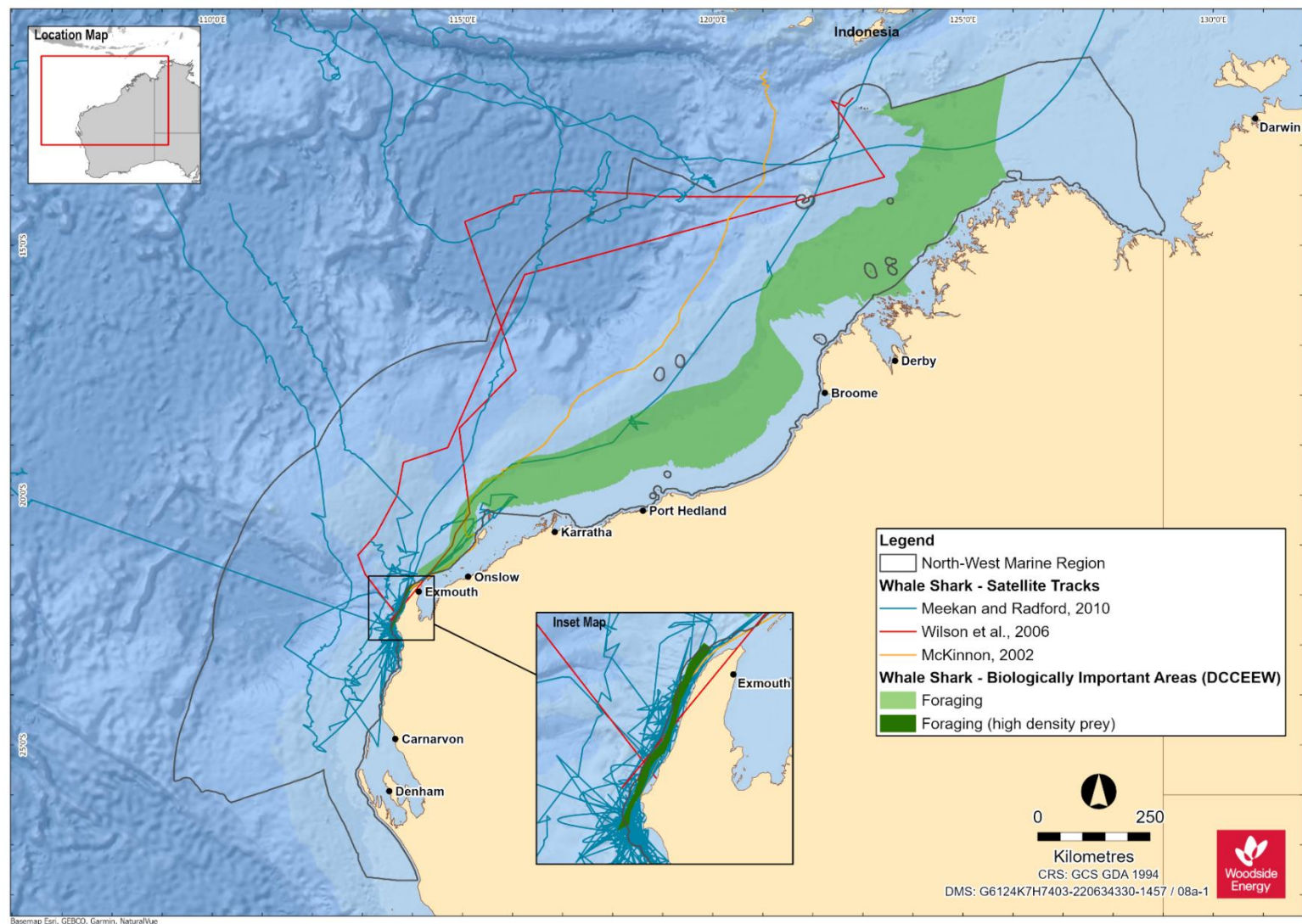


Figure 5-1: Whale shark biologically important areas (BIAs) for the NWMR and tagged whale shark satellite tracks (data source for BIAs: DCCEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

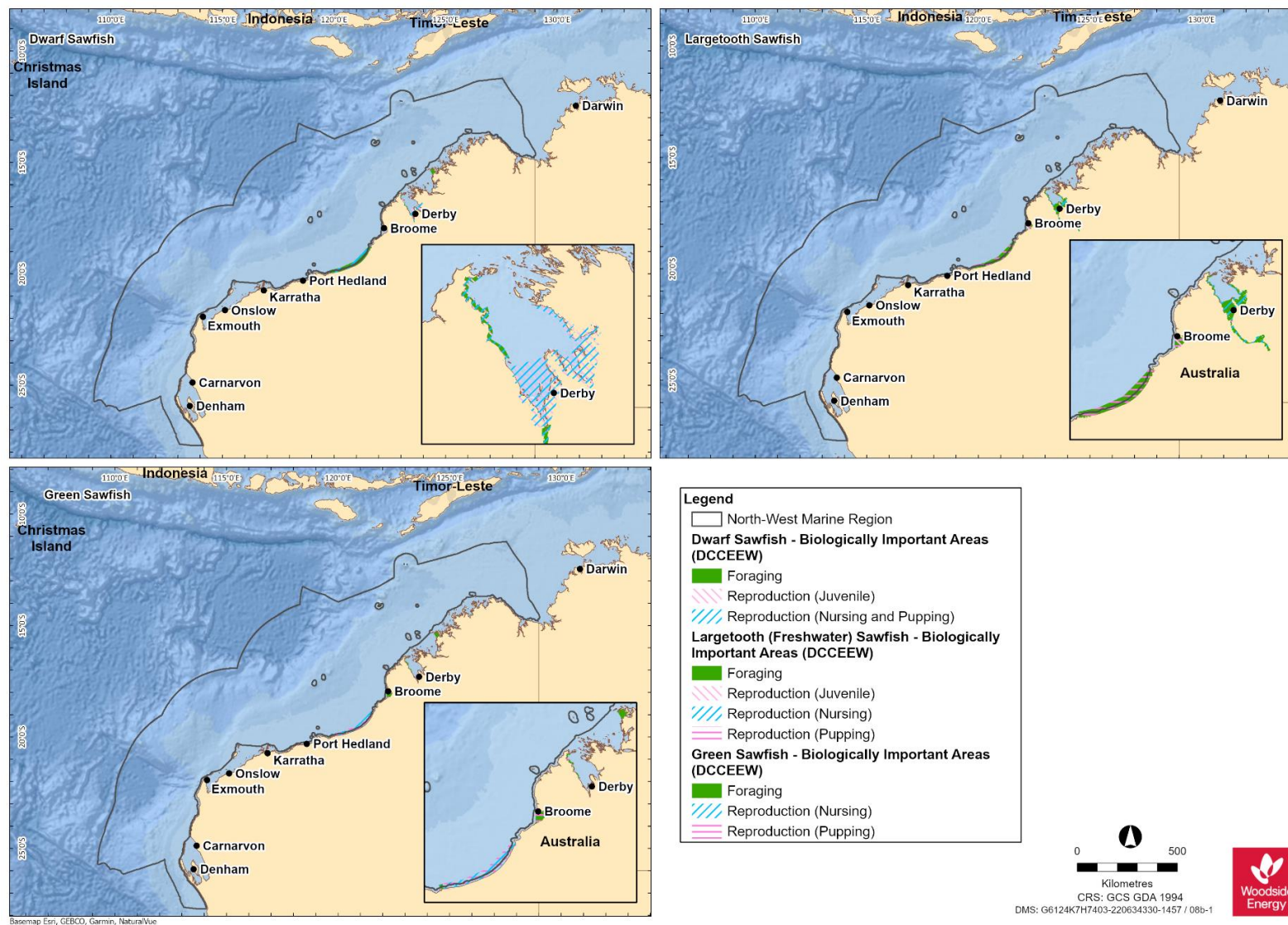


Figure 5-2: Sawfish BIAs for the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

5.4 Fish Assemblages of the NWMR

5.4.1 Regional Context for Fish Assemblages of NWMR

The NWMR contains a diverse range of fishes of tropical Indo-west Pacific affinity (Allen et al., 1988). The region is characterised by the highest level of endemism and species diversity compared with other areas of the Australian continental slope. Last et al. (2005) recorded 1431 species from the three bioregions encompassing the continental slope, whilst also acknowledging some information gaps. A study of fish assemblages of the Dampier Archipelago found habitat type and complexity influenced fish abundance, with significantly higher abundance in mangrove and coral habitats (Moustaka, et al. 2024).

The NWMR is known for its demersal slope fish assemblages; the continental slope of the Timor Province and the North-west Transition supports more than 418 and 505 species of demersal fishes respectively, of which 64 are considered to be endemic. This is the second richest area for demersal fish species across the entire Australian continental slope. Conversely, the broad Southern Province, which covers most of southern Australia, supports 463 species with only 26 possibly being endemic. The continental slope demersal fish assemblages of the NWMR have been identified as a KEF (DEWHA, 2008), as described in Section 10.

The ancient coastline at 125 m depth contour KEF within the NWMR is thought to support enhanced diversity. Drivers of fish species richness, biodiversity and assemblage composition have been assessed, finding that depth, seafloor complexity and habitat type explain richness and abundance of fish assemblages (Currey-Randall et al., 2021). This study also found that fish communities along the ancient coastline KEF are similar to other mesophotic areas on the NWS. Most of the surveyed feature was characterised by soft sediment and highly mobile fish species (Currey-Randall et al., 2021).

The NWMR also features a diversity of pelagic fishes (those living in the pelagic zone) and benthopelagic fishes, including tuna, billfish, bramid, lutjanids, serranids and some sharks (DEWHA, 2007a). These species feed on salps and jellyfish, and more often on secondary consumers such as squid and bait fish. Water depth provides an indication of the level of interaction between pelagic and benthic communities within the NWMR; in waters deeper than 1000 m, for instance, the trophic system is pelagically-driven and benthic communities rely on particulates that fall to the seafloor (DEWHA, 2007a).

Pelagic fishes play an important ecological role within the NWMR; small pelagic fishes, such as lantern fish, inhabit a range of marine environments, including inshore and continental shelf waters and form a vital link in and between many of the region's trophic systems, feeding on pelagic phytoplankton and zooplankton and providing a food source for a wide variety of predators including large pelagic fishes, sharks, seabirds and marine mammals (Bulman, 2006; Mackie et al., 2007). Large pelagic fishes, such as tuna, mackerel, swordfish, sailfish and marlin are found mainly in oceanic waters and occasionally on the continental shelf (Brewer et al., 2007). Both juvenile and adult phases of the large pelagic species are highly mobile and have a wide geographic distribution, although the juveniles more frequently inhabit warmer or coastal waters (DEWHA, 2008).

5.4.1.1 Listed Fish Species in the NWMR

The family Syngnathidae is a group of bony fishes that includes seahorses, pipefishes, pipehorses and seadragons. Along with syngnathids, members of the related Solenostomidae family (ghost pipefishes) are also found in the NWMR (DSEWPAC, 2012a).

There are 55 solenostomid and syngnathid species that are listed marine species that may occur within the NWMR, although no species is currently listed as threatened or migratory, according to the PMST report (Appendix A).

Syngnathids live in nearshore and inner shelf habitats, usually in shallow coastal waters, among seagrasses, mangroves, coral reefs, macroalgae dominated reefs, and sand or rubble habitats (Dawson, 1985; Lourie et al., 1999; Lourie et al., 2004; Vincent, 1996). Two species, the winged seahorse (*Hippocampus alatus*) and western pipehorse (*Solegnathus* sp. 2) have been identified in deeper waters of the NWMR (up to 200 m) (DSEWPAC, 2012a), however, these species were not identified by the Protected Matters search of the NWMR.

Knowledge about the distribution, abundance and ecology of both syngnathids and solenostomids in the NWMR is limited. No BIAs for syngnathids and solenostomids have been identified in the NWMR.

5.4.2 Browse

The proposed Browse activity area includes biologically important habitat for the whale shark and three sawfish species, being:

- whale shark (foraging northward from Ningaloo along the 200 m isobath (July–November) (Table 9-1)
- largetooth (freshwater) sawfish (pupping, nursing and foraging areas)
- green sawfish (pupping, nursing and foraging areas)
- dwarf sawfish (pupping, nursing and foraging areas).

BIAs for the shark and sawfish species are outlined in Table 5-5 and Figure 5-1.

The proposed Browse activity area has partial overlap with the continental slope demersal fish communities KEF.

5.4.3 North West Shelf / Scarborough

The NWS / Scarborough activity area includes biologically important habitat for the whale shark and three sawfish species, being:

- whale shark (foraging northward from Ningaloo along the 200 m isobath (July–November) (Table 9-1)
- freshwater sawfish (pupping, nursing and foraging areas)
- green sawfish (pupping, nursing and foraging areas)
- dwarf sawfish (pupping, nursing and foraging areas).

BIAs for the whale shark and sawfish species are outlined in Table 5-5 and Figure 5-1.

The NWS / Scarborough activity area has partial overlap with the continental slope demersal fish communities KEF. The continental slope between North-west Cape and the Montebello Trough has more than 500 fish species, 76 of which are endemic, which makes it the most diverse slope bioregion in Australia (Last et al., 2005).

5.4.4 North-west Cape

The North-west Cape activity area includes biologically important foraging habitat for the whale shark, being:

- foraging (high density) in Ningaloo Marine Park and adjacent Commonwealth waters (March–July) (Table 9-1)
- foraging northward from Ningaloo along the 200 m isobath (July–November) (Table 9-1).

BIAs for the whale shark are outlined in Table 5-5 and Figure 5-1. The North-west Cape activity area coincides with part of the continental slope demersal fish communities KEF.

6. MARINE REPTILES

6.1 Regional Context for Marine Reptiles

The NWMR contains important habitat for listed marine reptiles, including areas that support key life stages such as nesting, internesting, migration and foraging for marine turtle species, and habitats supporting resident sea snake and crocodile populations.

Six of the seven marine turtle species occur in Australian waters, and all six (the green turtle, hawksbill turtle, loggerhead turtle, flatback turtle, leatherback turtle and olive ridley turtle) occur in the NWMR and NMR, with four species of marine turtles occurring in the SWMR (see Protected Matters reports in Appendix A).

There are 25 listed species of sea snake reported within or adjacent to the NWMR (Guinea, 2007a; Udyawer et al., 2016), of which four are endemic to reef habitats in the remote parts of the region (see NWMR Protected Matters report in Appendix A).

There are significantly fewer marine reptile species that frequently occur within the SWMR and presently include four species of listed marine turtle and six sea snake species. Other species of sea snake may occur because of the southward-flowing Leeuwin Current as vagrants in the region (DSEWPAC, 2012b) (see SWMR Protected Matters report in Appendix A).

Twenty-eight listed sea snake species 'may' occur in the NMR, as reported in the Protected Matters report in Appendix A).

The following sections focus on the listed marine reptile species known to occur within the NWMR.

Table 6-1 outlines the threatened and migratory marine reptile species that may or are known to occur within the NWMR, with their conservation status and relevant recovery plans and/or conservation advice.

Table 6-1: Marine reptile species identified by the EPBC Act PMST that may occur within or utilise habitats in the NWMR for key life cycle stages

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report in Appendix A).			Biodiversity Conservation Act 2016 (WA) ⁸	IUCN ¹ Red List of Threatened Species (non-statutory) ⁹	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
<i>Caretta caretta</i>	Loggerhead turtle	Endangered	Migratory	Marine	Endangered	Vulnerable	Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017)
<i>Chelonia mydas</i>	Green turtle	Vulnerable	Migratory	Marine	Vulnerable	Endangered	
<i>Dermochelys coriacea</i>	Leatherback turtle	Endangered	Migratory	Marine	Vulnerable	Vulnerable	
<i>Eretmochelys imbricata</i>	Hawksbill turtle	Vulnerable	Migratory	Marine	Vulnerable	Critically Endangered	
<i>Natator depressus</i>	Flatback turtle	Vulnerable	Migratory	Marine	Vulnerable	Data Deficient	
<i>Lepidochelys olivacea</i>	Olive ridley turtle	Endangered	Migratory	Marine	Endangered	Vulnerable	
<i>Varanus mitchelli</i>	Mitchell's water monitor	Critically Endangered	N/A	N/A	N/A	Critically Endangered	Conservation Advice for <i>Varanus mitchelli</i> (Mitchell's water monitor) (DCCEEW, 2023c)
<i>Aipysurus apraefrontalis</i>	Short-nosed sea snake	Critically Endangered	N/A	Marine	Critically Endangered	Data Deficient	Approved Conservation Advice for <i>Aipysurus apraefrontalis</i> (Short-nosed Sea Snake) (DSEWPAC, 2011a)
<i>Aipysurus foliosquama</i>	Leaf-scaled sea snake	Critically Endangered	N/A	Marine	Critically Endangered	Data Deficient	Approved Conservation Advice for <i>Aipysurus foliosquama</i> (Leaf-scaled Sea Snake) (DSEWPAC, 2011b)
<i>Aipysurus fuscus</i>	Dusky sea snake	Endangered	N/A	Marine	N/A	Endangered	Conservation Advice for <i>Aipysurus fuscus</i> (dusky sea snake) (DCCEEW, 2024a)
<i>Crocodylus porosus</i>	Salt-water crocodile	N/A	Migratory	Marine	Migratory	Least Concern	N/A

⁸ Threatened and Priority Fauna List – April 2024 - <https://www.dbca.wa.gov.au/management/threatened-species-and-communities> (accessed on 13/08/2024)⁹ IUCN. 2024. The IUCN Red List of Threatened Species. Version 2024-1. <https://www.iucnredlist.org> (accessed on 13/08/2024)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

6.2 Marine Turtles in the NWMR, SWMR and NMR Bioregions

According to the Protected Matters search (Appendix A) six species of marine turtle known to occur within the NWMR are listed as threatened and migratory (three Vulnerable and three Endangered) under the EPBC Act—the green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*), flatback (*Natator depressus*), loggerhead (*Caretta caretta*), leatherback (*Dermochelys coriacea*) and olive ridley (*Lepidochelys olivacea*) turtles (DSEWPAC, 2012a) (refer Table 6-1).

The NWMR supports globally significant breeding populations of four marine turtle species: the green, hawksbill, flatback and loggerhead turtle. Olive ridley turtles are known to forage within the NWMR, but there are only occasional records of the species nesting in the region. Leatherback turtles regularly forage over Australian continental shelf waters within the NWMR but there are also no records of the species nesting in the region (DSEWPAC, 2012a).

The six marine turtle species reported for the NWMR also occur within the NMR.

Four marine turtle species; the green, loggerhead, flatback, and leatherback turtle, have presumed feeding areas within the SWMR; however, no known nesting areas exist within the region (DSEWPAC, 2012b).

Discrete genetic stocks have evolved within each marine turtle species. This is the result of marine turtles returning to the location where they hatched. These genetically distinct stocks are defined by the presence of regional breeding aggregations. Stocks are composed of multiple rookeries in a region and are delineated by where there is little or no migration of individuals between nesting areas. Turtles from different stocks typically overlap at feeding grounds (Commonwealth of Australia, 2017). There are 17 genetic stocks across both the NWMR and NMR (nine in the NWMR, six in the NMR, and two overlapping both regions). Of these 17 genetic stocks, nine are known to occur within Woodside's three areas of activity (Table 6-2).

6.2.1 Life Cycle Stages

Marine turtles are highly migratory during non-reproductive life phases and have high site fidelity during breeding and nesting life phases. The majority of their lives are spent in the ocean, with only adult female marine turtles coming ashore to lay eggs in the sand above the high-water mark on natal beaches (Commonwealth of Australia, 2017). Figure 6-1 summarises the generalised life cycle of marine turtles. Species-specific life cycle information is outlined within the Recovery Plan for Marine Turtles of Australia (Commonwealth of Australia, 2017).

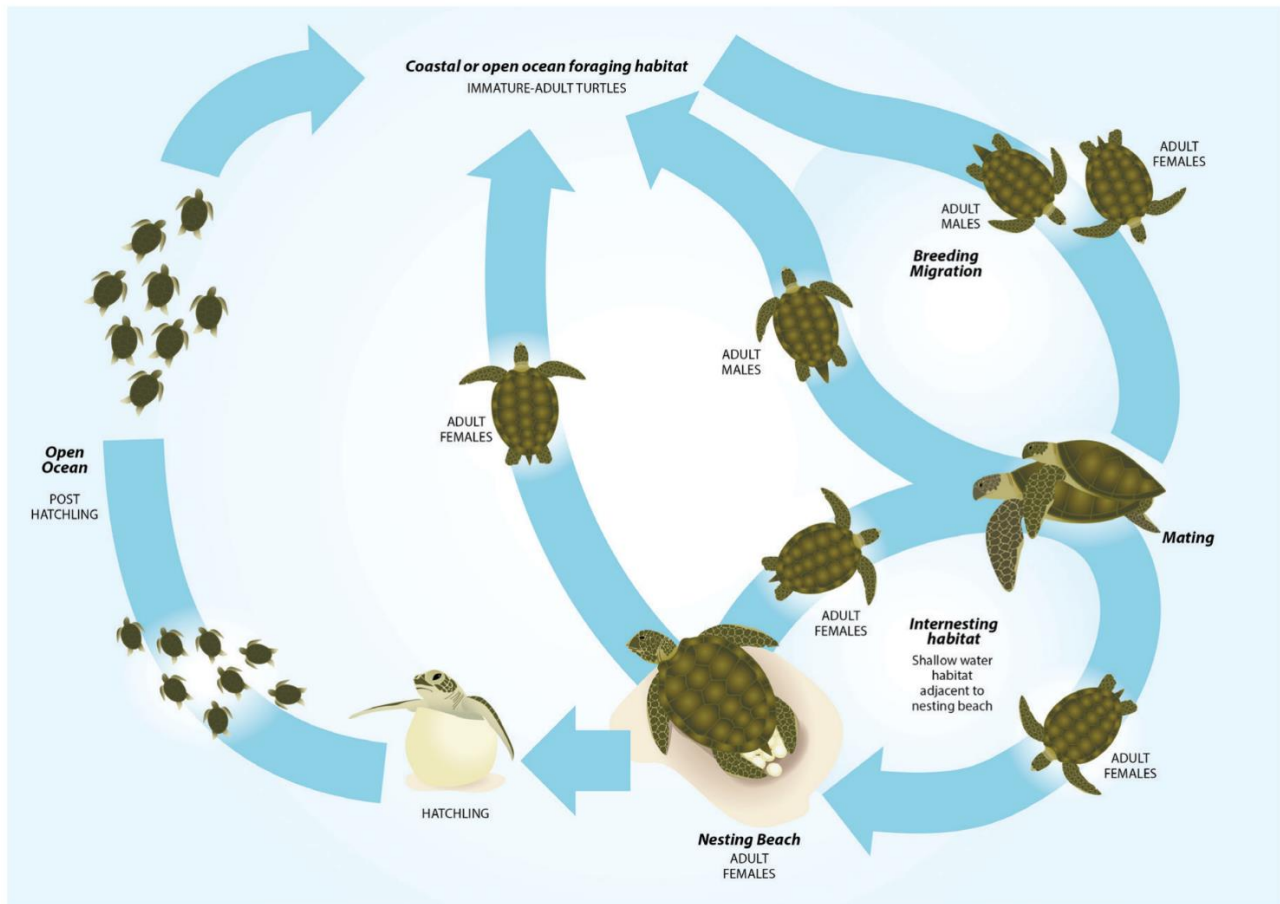


Figure 6-1: Generalised life cycle of marine turtles (Commonwealth of Australia, 2017)

6.2.2 Habitat Critical to Survival for Marine Turtles in the NWMR

The Recovery Plan for Marine Turtles of Australia (Commonwealth of Australia, 2017) identifies habitat critical to the survival of a species for marine turtle stocks under the EPBC Act. Habitat critical to survival is defined by the EPBC Act *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* as areas necessary:

- for activities such as foraging, breeding or dispersal
- for the long-term maintenance of the species (including the maintenance of species essential to the survival of the species)
- to maintain genetic diversity and long-term evolutionary development
- for the reintroduction of populations or recovery of the species.

The Recovery Plan for Marine Turtles of Australia (Commonwealth of Australia, 2017) has identified nesting locations and associated internesting areas as habitat critical to survival for four marine turtle species within the NWMR and these are identified, described and mapped in Table 6-2 and Figure 6-2. No habitat critical to survival has been identified within the NWMR for olive ridley or leatherback turtles.

Table 6-2 outlines the relevant genetic stock, habitat critical to survival and key life cycle stage seasonality of the four species of marine turtles within the NWMR.

Table 6-2: Genetic stock, habitat critical to survival and key life cycle stage seasonality of the four species of marine turtles within the NWMR

Species	Woodside Activity Area			Habitat Critical to Survival			
	Browse	NWS/S	NWC	Nesting (*Major Rookery ¹)	Internesting Buffer	Seasonality Nesting	Preferred Habitat ²
Green Turtle							
NWS Stock (G-NWS)	✓	✓	✓	Adele Island Maret Island Cassini Island Lacepede Islands* Barrow Island* Montebello Islands (all with sandy beaches)* Serrurier Island Dampier Archipelago Thevenard Island Northwest Cape* Ningaloo Coast	20 km radius	Nov–Mar	Nearshore reef habitats in the photic zone.
Ashmore Reef Stock (G-AR)	✓	-	-	Ashmore Reef* Cartier Reef*		All year (peak: Dec–Jan)	
Scott Reef-Browse Island Stock (G-ScBr)	✓	-	-	Scott Reef (Sandy Islet)* Browse Island*		Nov–Mar	

Species	Woodside Activity Area			Habitat Critical to Survival			
	Browse	NWS/S	NWC	Nesting (*Major Rookery ¹)	Internesting Buffer	Seasonality Nesting	Preferred Habitat ²
Hawksbill Turtle							
Western Australia Stock (H-WA)	-	✓	-	Dampier Archipelago (including Rosemary Island and Delambre Island)* Montebello Islands (including Ah Chong Island, South East Island and Trimouille Island)* Lowendal Islands (including Varanus Island, Beacon Island and Bridled Island) Sholl Island	20 km radius	Oct–Feb	Nearshore and offshore reef habitats.
Flatback Turtle							
Cape Domett Stock (F-CD)	✓	-	-	Cape Domett* Lacrosse Island	60 km radius	All year (peak: Jul–Sep)	Nearshore and offshore sub-tidal and soft bottomed habitats of offshore islands.
South-west Kimberley Stock (F-swKim)	-	✓	-	Eighty Mile Beach* Eco Beach* Lacepede Islands		Oct–Mar	
Pilbara Stock (F-Pil)	-	✓	-	Montebello Islands Mundabullangana Beach* Barrow Island* Cemetery Beach Dampier Archipelago (including Delambre Island* and Huay Island) Coastal islands from Cape Preston to Locker Island		Oct–Mar	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	Woodside Activity Area			Habitat Critical to Survival			
	Browse	NWS/S	NWC	Nesting (*Major Rookery ¹)	Internesting Buffer	Seasonality Nesting	Preferred Habitat ²
Unknown genetic stock Kimberley, Western Australia	✓	✓	-	Maret Islands Montilivet Islands Cassini Island Coronation Islands (includes Lamarck Island) Napier-Broome Bay Islands (West Governor Island, Sir Graham Moore Island – near Kalumbaru) Champagny, Darcy and Augustus Islands (Camden Sound)		May–July	
Loggerhead Turtle							
Western Australia Stock (LH-WA)	-	-	✓	Dirk Hartog Island* Muiron Islands* Gnaraloo Bay* Ningaloo Coast	20 km radius	Nov–May	Nearshore and island coral reefs, bays and estuaries in tropical and warm temperate latitudes.

¹ Major rookeries as outlined in the Recovery Plan (Commonwealth of Australia, 2017)

² Preferred habitat as outlined in the Recovery Plan (Commonwealth of Australia, 2017)

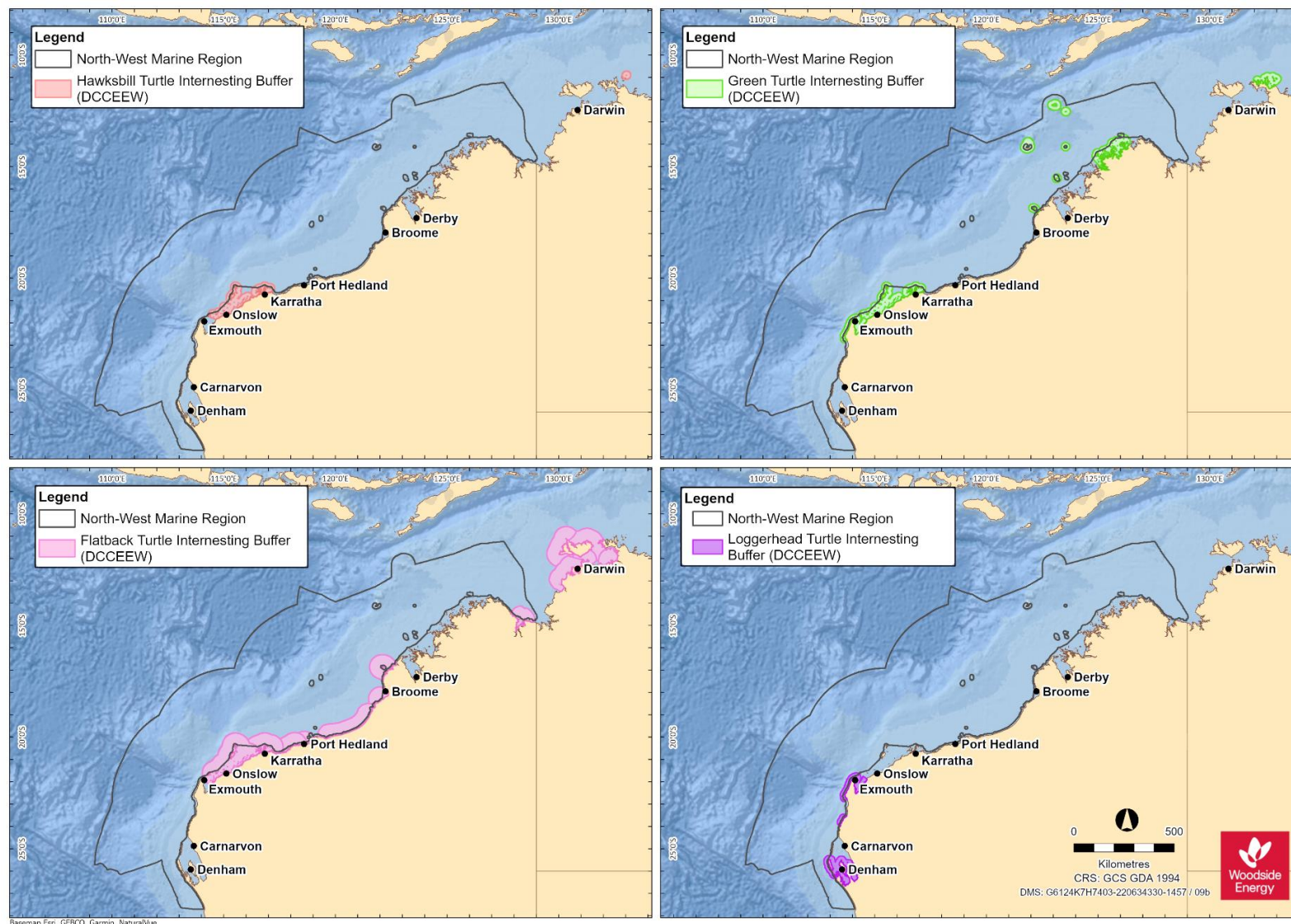


Figure 6-2: Marine turtle species habitat critical to survival (nesting beaches and internesting buffers) for the NWMR (data source: DCCEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

6.3 Marine Turtle Biological Important Areas in the NWMR

A review of the Australian Marine Spatial Information System (GA, 2024), the Marine Bioregional Plan for the North-west Marine Region (DSEWPAC, 2012a) and the Recovery Plan for Marine Turtles in Australia (CoA, 2017) identified BIAs for the four marine turtle species that occur within the NWMR. These are described in Table 6-3.

Table 6-3: Marine turtle BIAs within the NWMR

Species	Woodside Activity Area			BIAs				
	Browse	NWS/S	NWC	Mating	Nesting	Internesting	Foraging	Migration ¹⁰
Green turtle	✓	✓	✓	Barrow Island Montebello Islands (including Hermite Island, North West Island, Trimouille Island) Dampier Archipelago (islands to the west of the Burrup Peninsula) Ashmore Reef	Barrow Island Montebello Islands (including Hermite Island, North West Island, Trimouille Island) Middle Island Dampier Archipelago (islands to the west of the Burrup Peninsula) North and South Muiron Islands North West Cape Delambre Island Legendre Island and Huay Island Lacepede Islands Scott Reef – Sandy Island Ashmore Reef Cartier Island Cassini Island	Locations of 20 km internesting buffer BIAs for green turtles are described in the Marine Bioregional Plan for the North-west Marine Region (DSEWPAC, 2012a). Year round and seasonal 20 km internesting buffer BIAs are located around nesting sites. Habitat critical to survival internesting buffer (Table 6-2) is the legally recognised area of protection under the EPBC Act	Foraging inshore areas of Barrow Island Foraging at Montgomery Reef Foraging at Montebello Islands Foraging at Dixon Island Foraging around Ashmore Reef Foraging at Seringapatam Reef and Scott Reef Foraging in the De Grey River area to Bedout Island Foraging around the Islands between Cape Preston and Onslow and inshore of Barrow Island Foraging around Dampier Archipelago (islands to the west of the Burrup Peninsula) Foraging at Legendre Island and Huay Island Foraging around Delambre Island Foraging in the Joseph Bonaparte Gulf	Migration corridor at Dampier Archipelago (islands to the west of the Burrup Peninsula). Green turtles can migrate more than 2600 km between their feeding and nesting grounds. Individual turtles foraging in the same area do not necessarily take the same migration route (Limpus et al., 1992). Ferreira et al. (2021) broadly identified two migratory corridors, one used by the NWS stock-Pilbara and another used by the NWS stock-Kimberley and the Scott-Browse stock with some overlap at the northern and southern extents respectively. This study showed that the foraging distribution of green turtles from two stocks in WA expands throughout North-west and northern Australian coastal waters,

¹⁰ Migration BIA included in AMSIS (GA, 2024). General information for migratory behaviours also provided.

Species	Woodside Activity Area			BIAs				
	Browse	NWS/S	NWC	Mating	Nesting	Internesting	Foraging	Migration ¹⁰
							Foraging in waters adjacent to James Price Point	including the NT and Queensland.
Hawksbill turtle	✓	✓	✓	Montebello Islands Barrow Island Lowendal Island Group Dampier Archipelago (to the west of the Burrup Peninsula)	Lowendal Island Group Montebello Islands (including Ah Chong and South East islands) Rosemary Island Delambre Island Barrow Island Varanus Island and Thevenard Island Dampier Archipelago (to the west of the Burrup Peninsula) Ningaloo Coast and Jurabi Coast Sandy Islet at Scott Reef	Locations of 20 km internesting buffer BIAs for hawksbill turtles are described in the Marine Bioregional Plan for the North-west Marine Region (DSEWPAC, 2012a). Year round and seasonal 20 km internesting buffer BIAs are located around nesting sites. Habitat critical to survival internesting buffer (Table 6-2) is the legally recognised area of protection under the EPBC Act	Recent data shows foraging ranges from the north of Exmouth Gulf to offshore Broome (Fossette et al., 2021a). Foraging around the Lowendal Island group Foraging at Delambre Island Foraging around Dixon Island Foraging in the De Grey River area to Bedout Island Foraging around the islands between Cape Preston and Onslow and inshore of Barrow Island Foraging around the islands of the Dampier Archipelago (to the west of the Burrup Peninsula) Foraging at Ashmore Reef	Migration corridor at Dampier Archipelago (islands to the west of the Burrup Peninsula). Individuals may migrate up to 2400 km between their nesting and foraging grounds (DSEWPAC, 2012a), although reproductive migration distances over 1000 km appear less common in hawksbill turtles than other species (Fossette et al., 2021a). Recent satellite tracking data shows turtles migrating from WA rookeries remained on the continental shelf, with the majority following the coastline and dispersing in a north-easterly direction, with some turtles from the Montebello Archipelago and Lowendals moving in a south-westerly direction and some stopping around Barrow Island. A migratory corridor was observed from

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	Woodside Activity Area			BIAs				
	Browse	NWS/S	NWC	Mating	Nesting	Interesting	Foraging	Migration ¹⁰
								Cape Preston to De Grey River (Fossette et al., 2021a)
Flatback turtle	✓	✓	-	Lacepede Islands Montebello Islands Dampier Archipelago (islands to the West of the Burrup Peninsula) Mating at Barrow Island	Thevenard Island – South Coast (summer) high use on beaches with high dune height Barrow Island Montebello Islands (including Hermite Island, North West Island, Trimouille Island) Dampier Archipelago (islands to the west of the Burrup Peninsula) Delambre Island Legendre Island and Huay Island Dixon Island Intercourse Island West of Cape Lambert Various locations along the Pilbara coast between Karratha and Broome, including Cape Thouin, Mundabullangana, Cowrie Beach, Port Hedland (Cemetery Beach, Paradise	Locations of 80 km interesting buffer BIAs for flatback turtles are described in the Marine Bioregional Plan for the North-west Marine Region (DSEWPAC, 2012a). Year-round and seasonal interesting buffer BIAs of 80 km are located around nesting sites, extending 20 km further than the habitat critical to survival. Habitat critical to survival interesting buffer (Table 6-2) is the legally recognised area of protection under the EPBC Act	Foraging at the islands between Cape Preston and Onslow and inshore of Barrow Island. Foraging at Montebello Islands Foraging at Dampier Archipelago (islands to the West of the Burrup Peninsula) Foraging at Legendre Island and Huay Island Foraging at Delambre Island Foraging in the Joseph Bonaparte Depression Foraging in waters adjacent to James Price Point	Migration corridor at Dampier Archipelago (islands to the west of the Burrup Peninsula). The flatback turtle is a resident to Australian waters and spends 99% of its time within the Australian EEZ. A migratory corridor connects the coastlines between the Kimberley and Pilbara (Peel et al., 2024). There is evidence that some flatback turtles undertake long-distance migrations between breeding and feeding grounds (Limpus et al., 1983). However, flatback turtles generally do not have a pelagic phase to their lifecycle. Instead, hatchlings grow to maturity in shallow coastal waters thought to be close to their natal beaches (DSEWPAC, 2012a). A study predicting the dispersal of flatback

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	Woodside Activity Area			BIAs				
	Browse	NWS/S	NWC	Mating	Nesting	Interesting	Foraging	Migration ¹⁰
					Beach) and 80 Mile Beach Lacepede Islands			turtle hatchlings found that core areas were predominantly on the continental shelf (<200 m depth contour) during all dispersal phases, indicating that flatback turtles remain in neritic areas (Wilson et al., 2023).
Loggerhead turtle	✓	✓	-	No mating BIA identified within the NWMR	Dirk Hartog Island Muiron Islands Ningaloo and Jurabi coasts Montebello Islands Lowendal Island Rosemary Island Gnaraloo Station	Locations of 20 km interesting buffer BIAs for loggerhead turtles are described in the Marine Bioregional Plan for the North-west Marine Region (DSEWPAC, 2012a). Year-round and seasonal 20 km interesting buffer BIAs are located around nesting sites. Habitat critical to survival interesting buffer (Table 6-2) is the legally recognised area of protection under the EPBC Act	Foraging in the De Grey River area to Bedout Island Foraging on the Western Joseph Bonaparte Depression Foraging in the waters adjacent to James Price Point	No migration BIA identified within the NWMR. Adult loggerhead turtles dispersing from Dirk Hartog Island beaches (near Shark Bay) have remained within WA waters from southern WA to the Kimberley. Turtles dispersing from the North-west Cape – Muiron Islands nesting area have ranged north as far as the Java Sea and the North-western Gulf of Carpentaria, and to south-west WA (DSEWPAC, 2012a)

Species	Woodside Activity Area			BIAs				
	Browse	NWS/S	NWC	Mating	Nesting	Interesting	Foraging	Migration ¹⁰
Olive ridley turtle	✓	✓	-	No mating BIA identified within the NWMR	No nesting BIA identified within the NWMR	No interesting BIA identified within the NWMR	No foraging BIA identified within the NWMR, however may forage at: - the Western Joseph Bonaparte Depression and Gulf - Dampier Archipelago (islands to the West of the Burrup Peninsula).	No migration BIA identified within the NWMR. Migration routes and distances between nesting beaches and foraging areas are not known for Australian olive ridley turtles

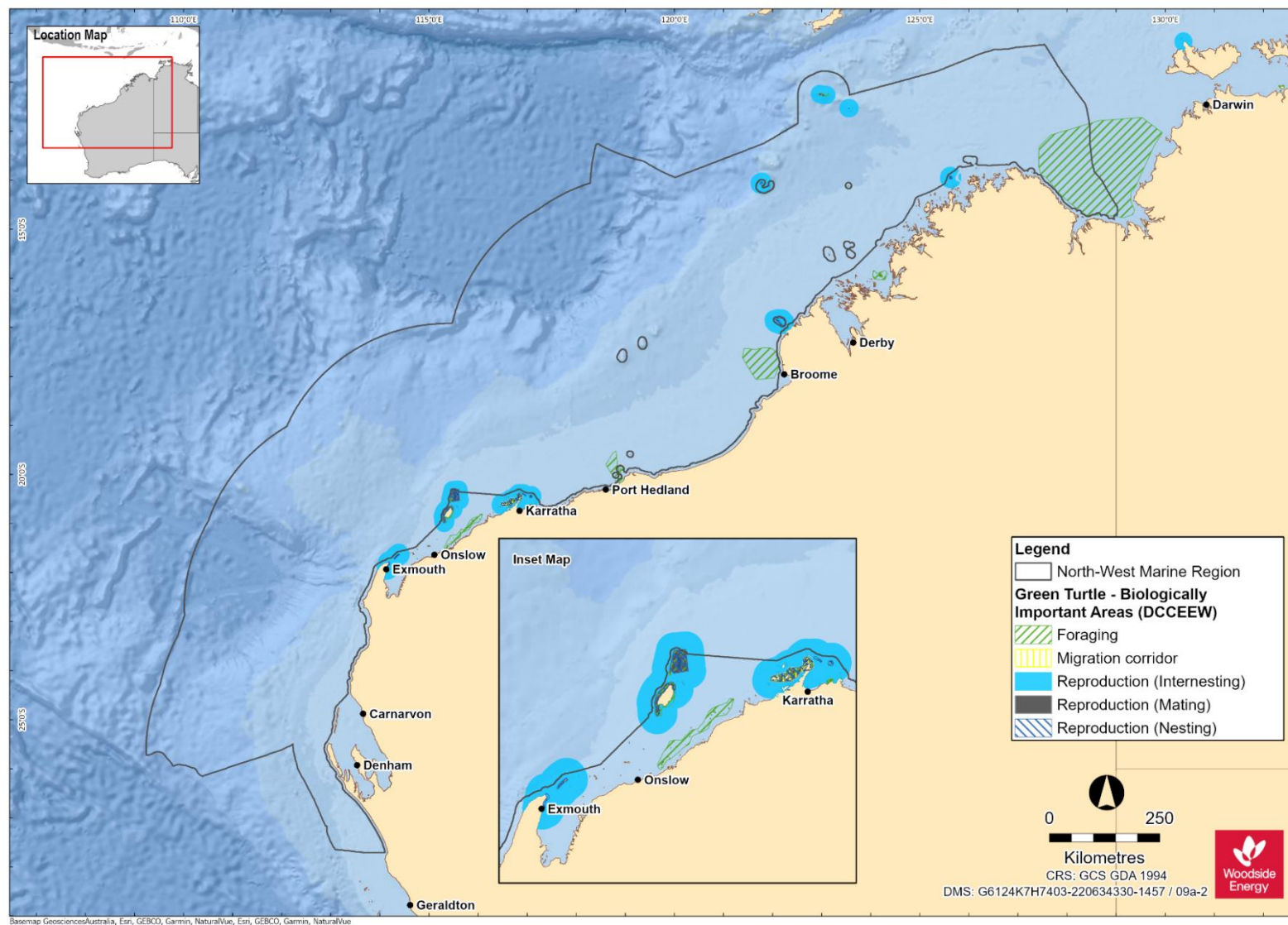


Figure 6-3: Green turtle BIAs within the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

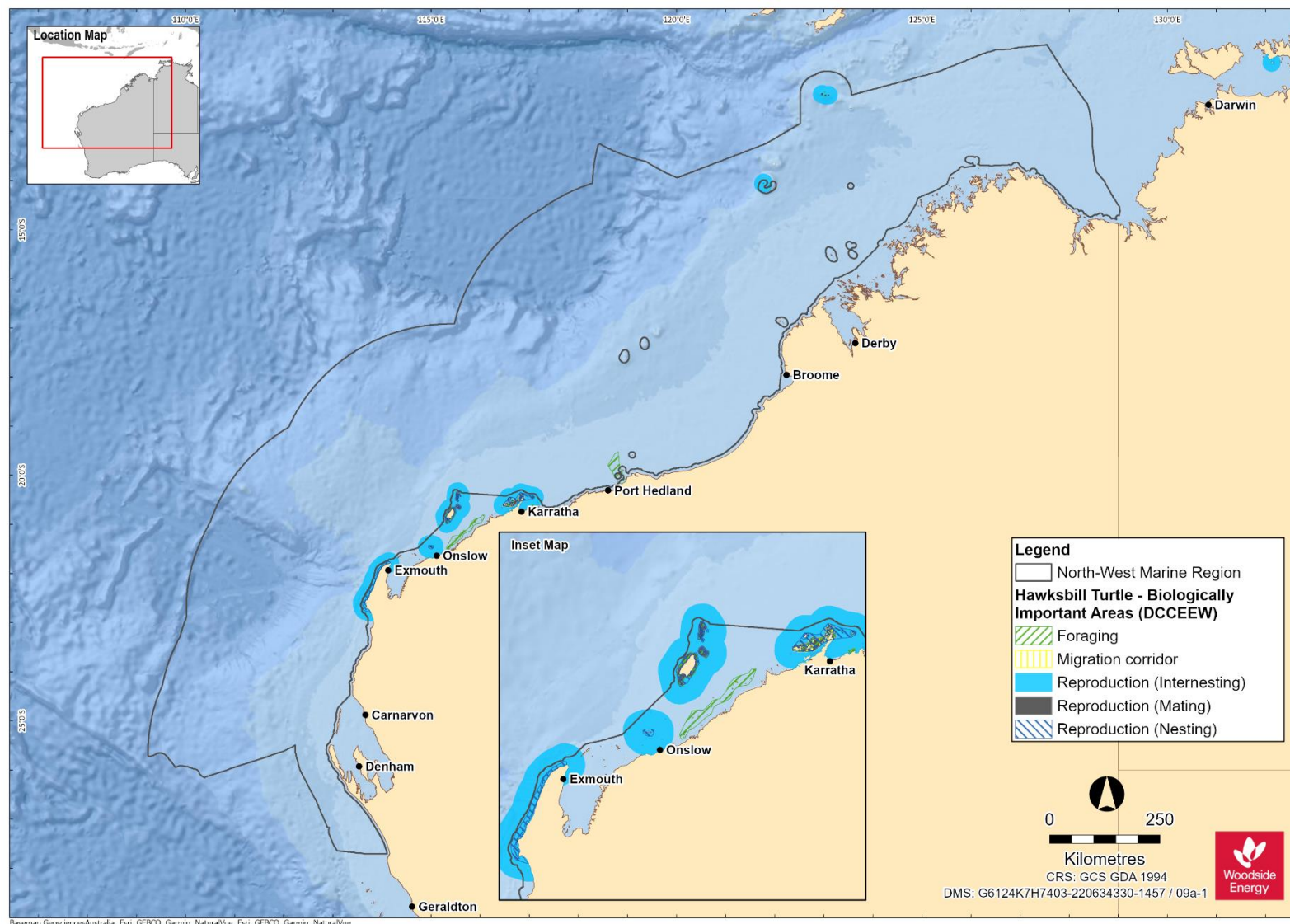


Figure 6-4: Hawksbill turtle BIAs within the NWMR (data source: DCCEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

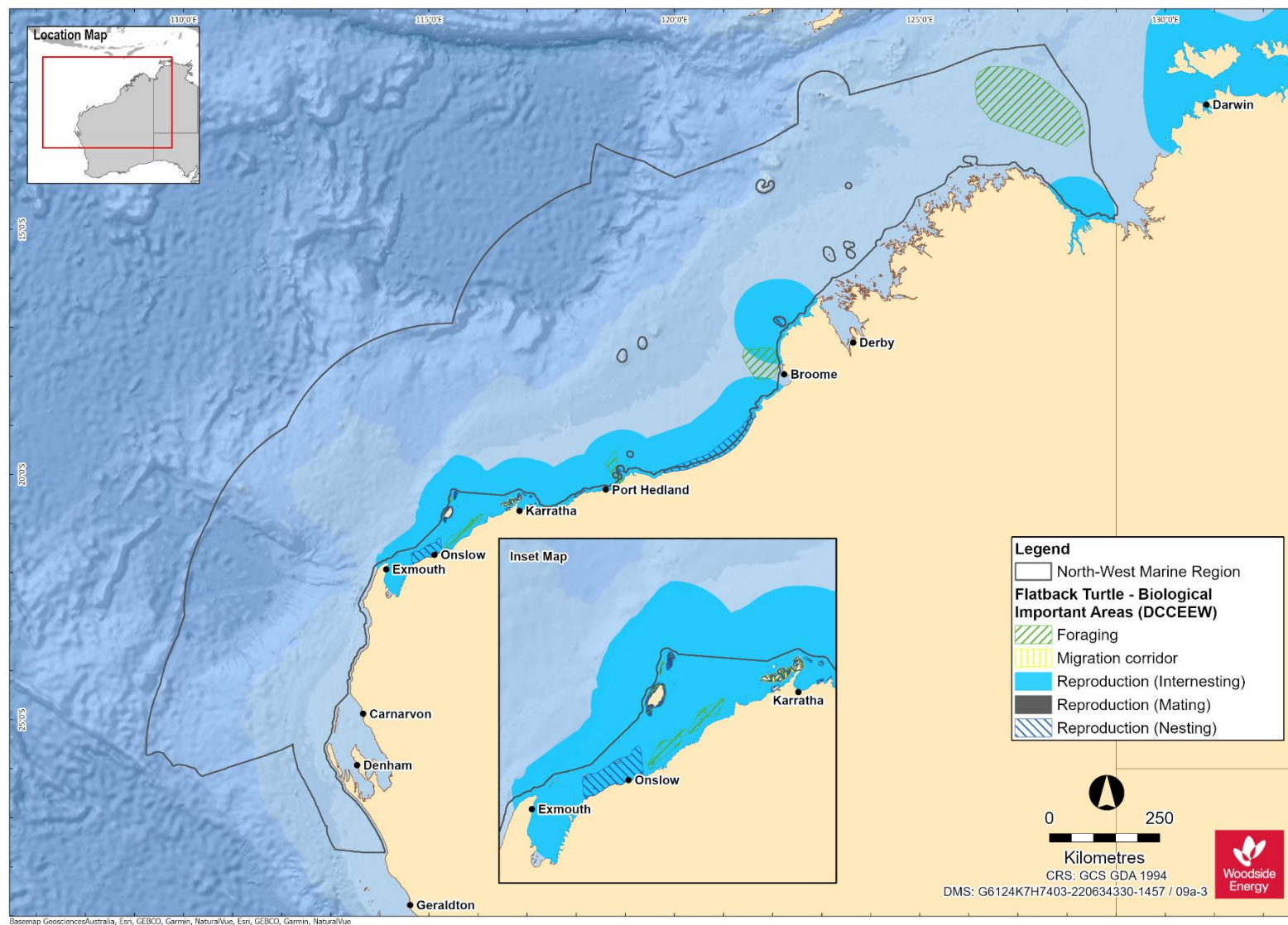


Figure 6-5: Flatback turtle BIAs within the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: G2000RH1401743486

Revision: 2

Woodside ID: 1401743486

Page 86 of 373

Uncontrolled when printed. Refer to electronic version for most up to date information.

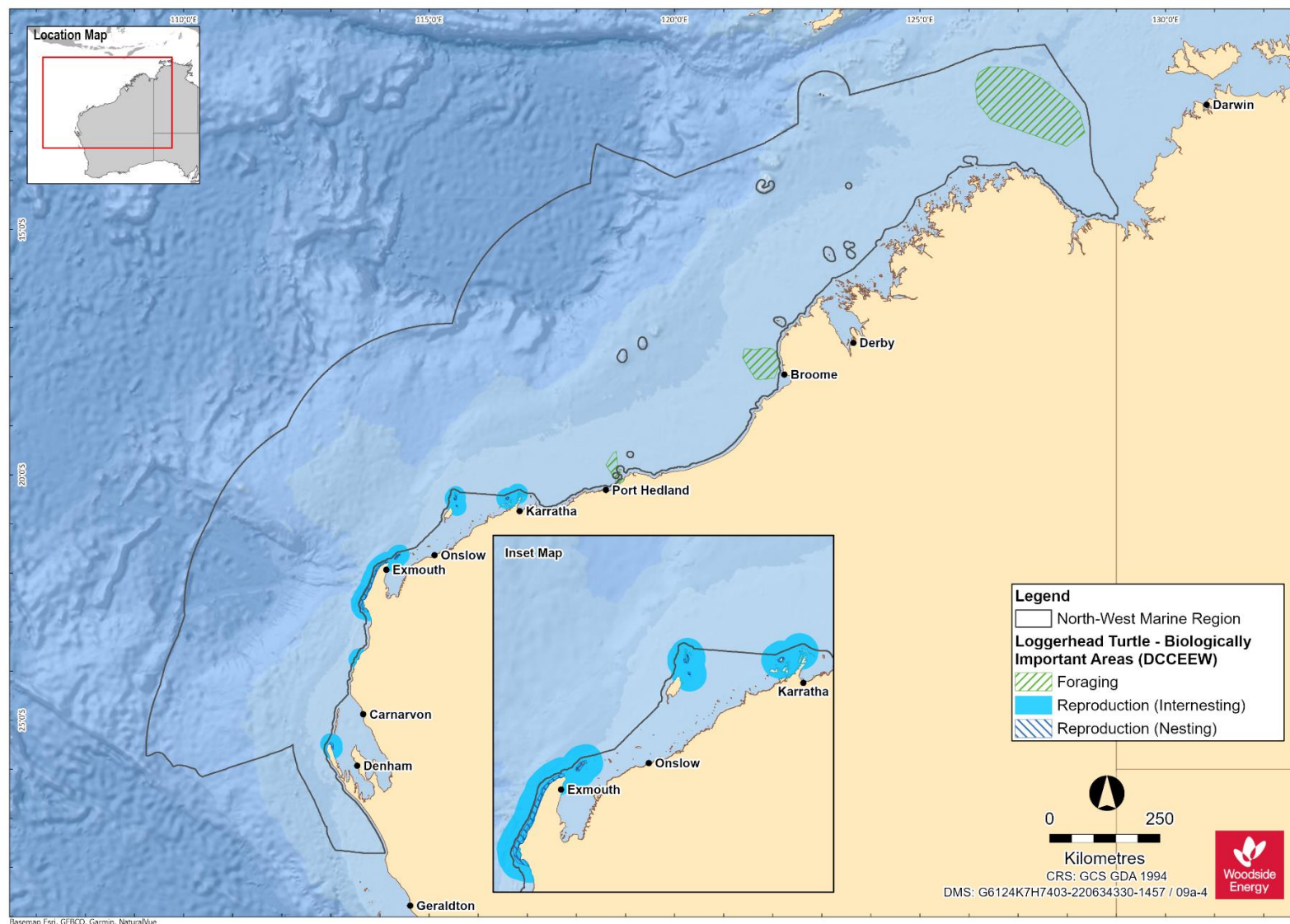


Figure 6-6: Loggerhead turtle BIAs within the NWMR (data source: DCCEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

6.4 Marine Turtle Summary for NWMR

Six of the seven marine turtle species occur within the Woodside activity areas. Across all three areas, globally significant breeding populations of four marine turtle species; the green, hawksbill, flatback and loggerhead turtle, have been recorded.

However, offshore waters do not represent biologically important habitat for marine turtles in any of the three Woodside activity areas. Isolated records of transient individuals (on post-nesting migration) are expected, but there is no evidence of important habitat or behaviours for marine turtles in the offshore, open water environment of the NWS, in general.

6.4.1 Browse

The proposed Browse activity area includes major nesting areas that support globally significant breeding populations of two marine turtle species:

- the green turtle, including two distinct genetic stocks (Ashmore Reef and Scott Reef-Browse Island)
- the flatback turtle, Cape Domett genetic stock.

Locations of habitat critical for each of the two species are outlined in Table 6-2 and Figure 6-2.

BIAs for the green and flatback turtle are outlined in Table 6-3 and Figure 6-3.

Table 6-4: Marine turtle key information for Browse activity area.

Species / Genetic Stock	Key Information
Green Turtle	
Ashmore Reef Stock (G-AR)	The G-AR stock nests in a localised area of the Indian Ocean in the Ashmore Reef and Cartier Island Australian Marine Park (AMP) areas. Population estimates are not available for Ashmore Reef, although annual breeding numbers are thought to be in the low hundreds (Whiting, 2000). Designated habitat critical for the G-AR stock are the nesting locations of Ashmore Reef and Cartier Reef, and an internesting buffer of 20 km radius around these rookeries, year-round with peak internesting activity occurring December to January (refer Table 6 of the Recovery Plan). Juvenile and adult turtles forage within the tidal/sub-tidal habitats of offshore islands and coastal waters with coral reef, mangrove, sand, rocky reefs, and mudflats where there are algal turfs or seagrass meadows present (Commonwealth of Australia, 2017).
Scott Reef-Browse Island Stock (G-ScBr)	The G-ScBr stock is a discrete unit known to nest at only two locations within the North-east Indian Ocean—Sandy Islet and Browse Island. There is currently very limited data available for the G-ScBr stock, therefore population numbers are not known. Designated habitat critical for the G-ScBr stock are the nesting locations of Sandy Islet and Browse Island, and an internesting buffer of 20 km radius around these rookeries, for the period November to March (refer Table 6 of the Recovery Plan). Surveys conducted at Scott Reef in 2006, 2008 and 2009 indicate that the summer months from late November to February are the preferred breeding season for green turtles at Sandy Islet (Guinea, 2009). Satellite tagging studies (Pendoley, 2005; Guinea, 2011) have provided an indication of the behaviour and migratory routes of adult green turtles leaving Scott Reef. Most animals appear to swim through South Reef lagoon and disperse toward the Western Australian mainland via two distinct post-nesting migration pathways; travelling east and north toward the Bonaparte Archipelago and then north along the coast to foraging areas in NT waters or travelling south to Cape Leveque and then south along the coast to the Turtle Islands off the mouth of the De Grey River in the Pilbara region (Ferreira et al., 2021).
Flatback Turtle	
Cape Domett Stock (F-CD)	Cape Domett is an important high density nesting area (Tucker et al., 2021). Combined with a smaller site at Lacrosse Island, the F-CD stock is one of the largest flatback turtle stocks in Australia. Average nesting abundance at Cape Domett is estimated at 3250 females per year (Whiting et al., 2008). Designated habitat critical for the F-CD stock are the nesting locations of Cape Domett and Lacrosse Island, and an internesting buffer of 60 km radius around these rookeries, year-round with peak internesting activity occurring July to September. Extending further than the habitat critical internesting buffer, an internesting buffer BIA of 80 km is located at Cape Domett and Lacrosse Island.

6.4.2 North West Shelf / Scarborough

The NWS / Scarborough activity area includes major nesting areas that support globally significant breeding populations of three marine turtle species, representing four discrete genetic stocks:

- the green turtle, NWS genetic stock
- the hawksbill turtle, WA genetic stock
- the flatback turtle, South-west Kimberley stock and Pilbara genetic stock.

Locations of habitat critical for each of the four species are outlined in Table 6-2 and Figure 6-2.

BIAs for the green, hawksbill, and flatback turtles are outlined in Table 6-3 and Figure 6-3.

Table 6-5: Marine turtle key information for NWS / Scarborough activity area

Species / Genetic Stock	Key Information
Green Turtle	
NWS Stock (G-NWS)	The G-NWS stock is one of the largest green turtle stocks in the world and the largest in the Indian Ocean. The G-NWS stock is estimated at approximately 20,000 individuals (DSEWPAC, 2012a) and the trend for the stock is reported as stable (Commonwealth of Australia, 2017). Major rookeries of the NWS stock within the NWS / Scarborough activity area are located at Lacepede Islands, Montebello Islands, Barrow Island (Tucker et al., 2021), Bells Beach, Delambre Island, Mundabullangana, Port Hedland, and Thevenard Island. These areas are designated habitat critical for survival of the stock and include an interesting buffer of 20 km radius around these rookeries from November to March.
Hawksbill Turtle	
Western Australia Stock (H-WA)	The H-WA stock is the largest in the Indian Ocean. The majority of the nesting for this stock is located in the Pilbara. The Dampier Archipelago has the largest nesting aggregation recorded. In particular, Rosemary Island supports the most significant hawksbill turtle rookery in the WA region and one of the largest in the Indian Ocean; approximately 500 to 1000 females nest on the island annually, more than at any other WA rookery (Pendoley, 2005; Pendoley et al., 2016). Major rookeries of the H-WA stock within the NWS / Scarborough activity area are located at Rosemary Island, Delambre Island and the Montebello Islands. These areas are designated habitat critical for the stock and include an interesting buffer of 20 km radius around these rookeries from October to February.
Flatback Turtle	
South-west Kimberley Stock (F-swKim)	The genetic relationship between this nesting aggregation and the Cape Domett and Pilbara stocks is currently under review. Population numbers of the F-swKim stock are unknown. Major rookeries of the F-swKim stock are located at Eighty Mile Beach and Eco Beach. These areas are designated habitat critical for the stock and include an interesting buffer of 60 km radius around these rookeries from October to March.
Pilbara Stock (F-Pil)	The extent of genetic relatedness of flatback turtles along the WA coast is currently under review. Population numbers of the F-Pil stock are unknown. This stock nests on many islands in the Pilbara and southern Kimberley, with major rookeries at Mundabullangana Beach, Delambre Island, Rosemary Island and Barrow Island. These areas are designated habitat critical for the F-Pil stock and include an interesting buffer of 60 km radius around these rookeries from October to March. A study using aerial photogrammetry showed nesting beaches were spread across the Pilbara from Y Island (Exmouth Gulf) in the southwest, to Bedout Island in the north and Mulla Mulla Downs Creek in the east (Fossette et al., 2021b). Other large flatback rookeries include Legendre Island and Thevenard Island. The Dampier Archipelago has been identified as a high-use area for flatback nesting (i.e. >50% of the stock) (Fossette et al., 2021b). Extending further than the habitat critical interesting buffer, a year-round interesting buffer BIA of 80 km is located north and north-west of the Montebello Islands. However, use level for this BIA has been defined as very low (Commonwealth of Australia, 2017) and the habitat critical interesting buffer is the legally recognised area of protection under the EPBC Act <i>Significant Impact Guidelines 1.1 – Matters of National Environmental Significance</i>. Post-nesting satellite tracking indicates foraging occurs along the WA coast in water shallower than 130 m and within 315 km of shore (Commonwealth of Australia, 2017). Flatbacks exhibit high fidelity to nesting beaches during periods of nesting attempts (Peel et al., 2024).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

6.4.3 North-west Cape

The North-west Cape activity area includes major nesting areas that support globally significant breeding populations of two marine turtle species, representing two discreet genetic stocks:

- the green turtle, NWS genetic stock
- the loggerhead turtle, Western Australia genetic stock.

Locations of habitat critical for each of the two species are outlined in Table 6-2, Figure 6-2 and Figure 6-3.

A 2018 survey, including on-beach monitoring of the Muiron Islands and Ningaloo Coast from North-west Cape to Bungelup (Rob et al., 2019), supports the concept that North-west Cape and the Muiron Islands are major important nesting areas for green and loggerhead turtles, as identified in the Recovery Plan (Commonwealth of Australia, 2017).

Table 6-6: Marine turtle key information for North-west Cape activity area

Species / Genetic Stock	Key Information
Green Turtle	
NWS Stock (G-NWS)	The G-NWS stock is one of the largest green turtle stocks in the world and the largest in the Indian Ocean. The G-NWS stock is estimated at approximately 20,000 individuals (DSEWPAC, 2012a) and the trend for the stock is reported as stable (Commonwealth of Australia, 2017). There is one major rookery of the G-NWS stock located within the North-west Cape activity area. Located on the mainland coast of the North-west Cape, this area is designated habitat critical for the stock and includes an internesting buffer of 20 km radius around the rookery from November to March. For the 2022–23 Ningaloo Turtle Program season, green turtles were the most active species in the NW Cape division, with 91.2% of total turtle activity (DBCA, 2023a). The number of green turtle nests has varied largely among years since commencement of the program in 2002 (range of 1.06 to 18.13 nests per subsection per day) with an average of 5.69. The average number of green turtle nests in the 2022–23 peak season were below average, with 4.07 nests per subsection per day (DBCA, 2023a). There have been two clear peaks (2011–12 and 2020–21) in activity since the beginning of the Ningaloo Turtle Program, where activity has been approximately 2.5 to 11 times greater than other seasons (DBCA, 2023a). Both seasons coincided with La Niña weather patterns (DBCA, 2021a).
Loggerhead Turtle	
Western Australia Stock (LH-WA)	The LH-WA stock is one of the largest in the world (Limpus, 2009). The trend for the stock is reported as stable (Commonwealth of Australia, 2017). Major rookeries of the LH-WA stock are located at Dirk Hartog Island, Muiron Islands and Gnarlaloo Bay. These areas are designated habitat critical for the stock and include an internesting buffer of 20 km radius around these rookeries from November to May. Dirk Hartog Island in the Shark Bay Marine Park, with an average of 122 nests per day over 2.1 km (Reinhold and Whiting, 2014), is recognised as the most important loggerhead turtle rookery in WA (Commonwealth of Australia, 2016; as cited in Rob et al., 2019). The standardised level of loggerhead turtle nesting along the North-west Cape was above the long-term average (0.36) for the 2022–23 season and the third highest since the Ningaloo Turtle Program began (2002), with 0.46 nests per subsection per day (DBCA, 2021a).

6.5 Sea Snakes

Sea snakes are commonly found in the NWMR and NMR, but less so in the SWMR, and occupy three broad habitat types: shallow water coral reef and seagrass habitats, deepwater soft bottom habitats away from reefs, and surface water pelagic habitats (Guinea, 2007a).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

There are 25 listed species of sea snake reported within or adjacent to the NWMR (Guinea, 2007a; Udyawer et al., 2016), of which four are endemic to reef habitats in the remote parts of the region:

- dusky sea snake (*Aipysurus fuscus*)
- large headed sea snake (*Hydrophis pacificus*)
- short-nosed sea snake (*Aipysurus apraefrontalis*)
- leaf-scaled sea snake (*Aipysurus foliosquama*).

The short-nosed sea snake, the leaf-scaled sea snake, and the dusky sea snake are listed threatened species (Critically Endangered or Endangered) under the EPBC Act (Table 6-7).

The Kimberley coast has the world's highest diversity of sea snakes, supporting over one third of all known species (Somaweera and Saunders, 2015). There is currently limited knowledge about the ranges and distribution patterns of sea snake species in the NWMR, in addition to a lack of understanding of population status and threats. Recent findings of *A. apraefrontalis* and *A. foliosquama* in locations outside of their previously defined ranges have highlighted the lack of information on species distributions in the NWMR (Udyawer et al., 2016). Udyawer et al. (2020) used a correlative modelling approach to understand habitat associations and identify suitable habitats for five sea snake species (*A. apraefrontalis*, *A. foliosquama*, *A. fuscus*, *A. l. pooleorum* and *A. tenuis*). Species-specific habitat suitability was modelled across 804,244 km² of coastal waters along the NWS, and the resulting habitat suitability maps enabled the identification of key locations of suitable habitat for these five species (refer Table 6-6).

No habitat critical to survival or BIAs for sea snake species have been identified in the NWMR. While the Ashmore Reef and Cartier Island AMPs have been recognised for their high diversity and density of sea snakes (DSEWPAC, 2012a), surveys have revealed a steep decline in sea snake numbers at Ashmore Reef (Guinea, 2007b; Lukoschek et al., 2013). Leaf-scaled and short-nosed sea snakes have been absent from surveys at Ashmore Reef since 2001, despite an increase in survey intensity (Guinea, 2006, 2007b; Guinea and Whiting, 2005; Lukoschek et al., 2013). The reason for the decline is unknown.

Table 6-7: Information on threatened sea snake species within the NWMR

Species	Preferred Habitat and Diet	Habitat Location
Short-nosed sea snake	Preferred habitat: Primarily on reef flats or in shallow waters of outer reef edges to depths of 10 m (Minton et al., 1975). Typically, movement is restricted to within 50 m of reef flat habitat (Guinea and Whiting, 2005). Diet: Primarily fishes and eels.	The short-nosed sea snake has been recorded from Exmouth Gulf to the reefs of the Sahul Shelf, although most records come from Ashmore and Hibernia reefs (Guinea and Whiting, 2005). Key locations of suitable habitat: Ashmore Reef, Exmouth Gulf and coral habitat fringing the Muiron Islands and the Montebello Islands (Udyawer et al., 2020).
Leaf-scaled sea snake	Preferred habitat: The leaf-scaled sea snake occurs in shallow protected areas of reef flats, typically in water depth less than 10 m. Diet: Primarily shallow water coral-associated wrasse, gudgeons, clinids and eels (McCosker, 1975; Voris, 1972; Voris and Voris, 1983).	The leaf-scaled sea snake has only been recorded at Ashmore and Hibernia reefs (Guinea and Whiting, 2005), indicating it has a very limited distribution. Key locations of suitable habitat: Ashmore Reef, Shark Bay, Exmouth Gulf, Barrow Island and Montebello Islands (Udyawer et al., 2020).
Dusky sea snake	Preferred habitat: The dusky sea snake is a reef specialist that is only known to occur on complex hard coral reefs and shoals – both emergent and subsurface. Has only been recorded at depths of 0–20 m however may occur in deeper areas with less survey effort (DCCEEW, 2024o). Diet: Stomach content analyses have identified benthic gobies, wrasses and occasionally fish eggs (DCCEEW, 2024o).	The dusky sea snake has been recorded sparsely and patchily from reefs and shoals at the outer margin and mid-shelf of the Australian continental shelf, specifically at the Scott Reef complex (Scott Reef, North Scott Reef and Sandy Islet) and nearby Seringapatam Reef, Heywood Shoal, and at Ashmore Reef, Cartier Island and Hibernia Reef. The dusky sea snake has not been detected at Ashmore Reef, Cartier Island or Hibernia Reef since the early 2000s. The species may occur undetected at mid-shelf shoals which comprise the shallowest of sea mounts and banks that occur along a north-easterly crescent from south of Heywood Shoal, past Cartier Island, to Ashmore Reef (DCCEEW, 2024o).

6.6 Crocodiles

The salt-water crocodile (*Crocodylus porosus*) is a listed migratory species under the EPBC Act known to occur within the NWMR. The species is found in most major river systems of the Kimberley, including the Ord, Patrick, Forrest, Durack, King, Pentecost, Prince Regent, Lawley, Mitchell, Hunter, Roe and Glenelg rivers. The largest populations occur in the rivers draining into the Cambridge Gulf and the Prince Regent River and Roe River systems. There have also been isolated records in rivers of the Pilbara region, around Derby near Broome and as far south as Carnarvon on the mid-west coast. No BIAs for salt-water crocodile have been identified in the NWMR.

6.7 Water Monitor

Mitchell's water monitor (*Varanus mitchelli*) is listed as critically endangered under the EPBC Act. The species is known to occur in wetlands and coastal floodplains in the northern extent of the NWMR, with distribution from Yampi Sound Training Area, across the Kimberley and into the Top End of the Northern Territory and far northwest Queensland (DCCEEW, 2023c). The species inhabits freshwater and saline wetlands that range from seasonal gorges in upper catchments to large rivers and coastal floodplains. It has been recorded in rivers, creeks, riffle zones, gorges, springs, lagoons, swamps, mangroves, and foreshores (DCCEEW, 2023c).

Habitat critical to the survival of the species has not been mapped however includes all areas where the species persists following the establishment of cane toads and areas within known distribution where habitat occurs or can be restored (terrestrial) (DCCEEW, 2023c). No BIAs for Mitchell's water monitor have been identified in the NWMR.

7. MARINE MAMMALS

7.1 Regional Context

The offshore waters of WA include important habitat for marine mammals, including areas that support key life stages such as breeding, calving, foraging, and migration. Of the 45 species of cetacean occurring in Australian waters, 27 species occur regularly in the waters of the NWMR, nine species in the waters of the NMR and 33 species in the SWMR. The waters of the NWMR and the NMR support globally significant dugong populations (DSEWPAC, 2012a, 2012c).

The NWMR is an important migratory pathway between feeding grounds in the Southern Ocean and breeding grounds in tropical waters of the NWMR for several cetacean species (DSEWPAC, 2012a). Numerous large mysticetes (baleen whale) species, in particular the humpback whale, are known to utilise the region for migration and calving, and the pygmy blue whale is known to utilise the region for foraging and as a migration pathway between southern feeding and northern breeding/feeding areas north of the equator.

The SWMR is an important area for numerous marine mammal species including pinniped species, large, migratory whale species and resident coastal whale and dolphin species (DSEWPAC, 2012b).

The NMR and adjacent areas are important for several species of cetacean, particularly inshore dolphin species. These species, and other marine mammals, rely on the waters of the NMR and adjacent coastal areas for breeding and foraging (DSEWPAC, 2012c).

Table 7-1 outlines the threatened and migratory marine mammal species that may occur within the NWMR, with their conservation status and relevant recovery plans and/or conservation advice.

Table 7-1: Marine mammal species identified by the EPBC Act PMST that may occur within the NWMR

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report in Appendix A)			<i>Biodiversity Conservation Act 2016 (WA)</i> ¹¹	IUCN Red List of Threatened Species (non-statutory) ¹²	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
Cetaceans – Mysticeti							
<i>Balaenoptera musculus</i>	Blue whale	Endangered	Migratory	Cetacean	Endangered	Endangered	Conservation Management Plan for the Blue Whale – A Recovery Plan under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> 2015–2025 (Commonwealth of Australia, 2015a)
<i>Eubalaena australis</i>	Southern right whale	Endangered	Migratory	Cetacean	Vulnerable	Least Concern	National Recovery Plan for the Southern Right Whale <i>Eubalaena australis</i> (DCCEEW, 2024a)
<i>Balaenoptera borealis</i>	Sei whale	Vulnerable	Migratory	Cetacean	Endangered	Endangered	Conservation Advice <i>Balaenoptera borealis</i> sei whale (Threatened Species Scientific Committee, 2015a)
<i>Megaptera novaeangliae</i>	Humpback whale	N/A	Migratory	Cetacean	Conservation dependent	Least Concern	Listing Advice <i>Megaptera novaeangliae</i> Humpback Whale (DAWE, 2022)

¹¹ Threatened and Priority Fauna List – April 2024 - <https://www.dbca.wa.gov.au/management/threatened-species-and-communities> (accessed on 13/08/2024)¹² IUCN, 2024. The IUCN Red List of Threatened Species. Version 2024-1. <https://www.iucnredlist.org> (accessed on 13/08/2024)

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report in Appendix A)			Biodiversity Conservation Act 2016 (WA) ¹¹	IUCN Red List of Threatened Species (non-statutory) ¹²	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
<i>Balaenoptera physalus</i>	Fin whale	Vulnerable	Migratory	Cetacean	Endangered	Vulnerable	Conservation Advice <i>Balaenoptera physalus</i> fin whale (Threatened Species Scientific Committee, 2015c)
<i>Balaenoptera edeni</i>	Bryde's whale	N/A	Migratory	Cetacean	Migratory	Least Concern	N/A
<i>Balaenoptera bonaerensis</i>	Antarctic minke whale	N/A	Migratory	Cetacean	Migratory	Near Threatened	N/A
<i>Balaenoptera omurai</i>	Omura's whale	N/A	Migratory	Cetacean	N/A	Data Deficient	N/A
Cetaceans – Odontoceti							
<i>Physeter macrocephalus</i>	Sperm whale	N/A	Migratory	Cetacean	Vulnerable	Vulnerable	N/A
<i>Orcinus orca</i>	Killer whale	N/A	Migratory	Cetacean	Migratory	Data Deficient	N/A
<i>Orcaella heinsohni</i>	Australian snubfin dolphin	N/A	Migratory	Cetacean	Priority	Vulnerable	N/A
<i>Sousa chinensis</i>	Indo-Pacific humpback dolphin (Australian humpback dolphin)	N/A	Migratory	Cetacean	Priority	Vulnerable	N/A

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report in Appendix A)			Biodiversity Conservation Act 2016 (WA) ¹¹	IUCN Red List of Threatened Species (non-statutory) ¹²	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
<i>Tursiops aduncus</i>	Spotted bottlenose dolphin (Arafura/ Timor Sea populations)	N/A	Migratory	Cetacean	N/A	N/A	N/A
Sirenians and Pinnipeds							
<i>Dugong dugon</i>	Dugong	N/A	Migratory	Marine	Migratory	Vulnerable	N/A
<i>Neophoca cinerea</i>	Australian sea lion	Endangered	N/A	Marine	Endangered	Endangered	Recovery Plan for the Australian Sea Lion (<i>Neophoca cinerea</i>) 2013 (DSEWPAC, 2013a) Conservation Advice <i>Neophoca cinerea</i> Australian Sea Lion (Threatened Species Scientific Committee, 2020a) (in effect under the EPBC Act from 23-Dec-2020)

7.2 Cetaceans in the NWMR

Cetaceans are generally widely distributed and highly mobile. In general, distribution patterns reflect seasonal feeding and breeding areas, characterised by high productivity, and migration routes associated with reproductive patterns. The NWMR is an important migratory pathway between feeding grounds in the Southern Ocean and breeding grounds in tropical waters for several cetacean species (DSEWPAC, 2012a).

From the Protected Matters search, 34 EPBC Act listed species were recorded as potentially occurring or having habitat within the NWMR (Appendix A). Of those, 12 cetacean species are listed as threatened and/or migratory, including baleen whales, toothed whales and dolphins that occur within the NWMR (Table 7-2).

7.3 Dugongs in the NWMR

The dugong is listed as migratory under the EPBC Act. Dugongs inhabit seagrass meadows in coastal waters, estuarine creeks and streams, and reef systems (DSEWPAC, 2012a).

Some of the coastal waters adjacent to the NWMR support significant populations of dugongs, including Shark Bay, Exmouth Gulf, in and adjacent to Ningaloo Reef, in coastal waters along the Kimberley coast, and on the edge of the continental shelf at Ashmore Reef (DEWHA, 2008).

Although the patterns of dugong movement in WA are not well understood, it is thought that dugongs move in response to availability of seagrass (Marsh et al., 1994; Preen et al., 1997) and water temperature. Cleguer and Marsh (2023) present the most contemporary data on dugongs and population estimates via an inventory of dugong aerial surveys of Australia, including northwest Australia (Shark Bay, Ningaloo, Exmouth Gulf and Pilbara, the Kimberley Region).

There are a number of BIAs for dugong within and adjacent to waters of the NWMR (refer Section 7.5).

7.4 Pinnipeds in the NWMR

The Australian sea lion is listed as a species that may occur or may have habitat within the NWMR (Protected Matters search – Appendix A).

It is included here as the Australian sea lion is the only pinniped endemic to Australia (Strahan, 1983) and has been recorded within the southern extent of the NWMR at Shark Bay, WA (Kirkwood et al., 1992). The most northern known breeding colony is at the Houtman Abrolhos Islands in the SWMR. The Australian sea lion's breeding range extends from the Houtman Abrolhos Islands, WA to The Pages Island, east of Kangaroo Island, SA. The Australian sea lion was listed as endangered in 2020 (Threatened Species Scientific Committee, 2020a). An assessment of the status and trends in abundance of this endemic, coastal pinniped species (Goldsworthy et al., 2021) documented an overall reduction in pup abundance over three generations, providing strong evidence that the species meets IUCN endangered criteria.

There are no BIAs for the Australian sea lion in the NWMR.

7.5 Marine Mammals in the NWMR

Marine mammal descriptions within the NWMR including baleen whales, toothed whales and dolphins and dugongs are presented in Table 7-2.

Table 7-2: Information on the threatened/migratory marine mammal species within the NWMR

Species	Key Information
Baleen whales (Mysticeti) – Low Frequency hearing	
Humpback whale	In Australian waters, there are two genetically distinct populations of humpback whales that migrate annually along the west (Group IV/ Group D) and east (Group V) coasts between May and November (Jenner et al., 2001). The population of humpback whales (<i>Megaptera novaeangliae</i>) known as Group IV/D migrate annually from Antarctic feeding grounds passing along the coast of Western Australia to warm tropical waters including the Kimberley, North West Cape, and Exmouth Gulf for breeding and calving (Russell et al., 2024). The biannual migration of humpback whales through the NWMR occurs in winter (June to August) for northbound migrating whales and southbound in early spring (September to November). Population data for the West Australian sub-population is considerably variable (DAWE, 2022). The population has been increasing in size at a rate of approximately 10% per annum since the cessation of whaling in Western Australian waters by 1963 (Thums et al., 2018) and population numbers have increased from approximately 2000 to 3000 individuals in 1991 to between 19,200–33,850 individuals in 2008 (Bannister and Hedley, 2001; Bejder et al., 2019; Hedley et al., 2011). Aerial surveys off the WA coast undertaken between 2000 and 2008 produced a population estimate for the Group IV population of 26,100 individuals (Salgado Kent et al., 2012) and the predicted increasing trend in abundance predicted by modelling (Thums et al., 2018). The International Whaling Commission (IWC) estimated that in 2012 the Western Australian subpopulation had recovered to 90% (74–98% 90% PI) of its pre-whaling levels and projected that by 2020 it would have reached 98% (88–100% PI) (IWC 2015 cited in (DAWE, 2022)). Due to the unprecedented population recovery the humpback whale was removed from the EPBC Act threatened species list as it was deemed no longer eligible for inclusion (DAWE, 2022) after a previous listing as Vulnerable for many decades. The Group IV population migrates northward from their Antarctic feeding grounds around May each year, reaching the NWMR around early June. The southward migration subsequently starts in mid-September, after time for breeding and calving (typically within August and September) (Threatened Species Scientific Committee, 2015b). Within the NWMR there are key calving areas between Broome and the northern end of Camden Sound, and resting areas in the southern Kimberley region, Exmouth Gulf and Shark Bay. In particular, high numbers of humpback whales are observed in Camden Sound and Pender Bay from June to September each year (Threatened Species Scientific Committee, 2015b) and as far south as Gourdon Bay in the Kimberley (Thums et al., 2018). There are reports of neonates present further south, suggesting that the calving areas may be poorly defined, expanding or returning to pre-whaling patterns as the population recovers. Aerial photogrammetric surveys in 2013 and 2015 recorded large numbers of humpback whale calves along the North-west Cape, with estimated minimum relative calf abundance of 463–603 in 2013 and 557–725 in 2015 (Irvine et al., 2018). The majority of calves sighted in both years (85% in 2013; 94% in 2015) were neonates, and these observations indicate that a minimum of approximately 20% of the expected number of calves of this population are born near, or south of the North-west Cape. Thus, the calving grounds for the Group IV population extend south from Camden Sound to at least North-west Cape, 1000 km South-west of the currently recognized calving area (Irvine et al., 2017) and further south, as reported for Geographe Bay and Flinders Bay (in July and August) in south-west, Western Australia (Jolliffe et al., 2024). The seasonal presence of humpback whales is presented in Table 9-1. Migration, breeding and calving BIAs for the humpback whale within the NWMR are presented in Table 7-3 and Figure 7-2.
Blue whale	There are two recognised sub-species of blue whale in the Southern Hemisphere, both of which are recorded in Australian waters. These are the southern (or 'true') blue whale (<i>Balaenoptera musculus</i>) and the 'pygmy' blue whale (<i>Balaenoptera musculus brevicauda</i>) (Commonwealth of Australia, 2015a). In general, southern blue whales occur in waters south of 60°S and pygmy blue whales occur in waters north of 55°S (i.e. not in the Antarctic). On this basis, it is reasonably assumed all blue whales sighted in the NWMR are likely to be pygmy blue whales.

Species	Key Information
	The migratory population, known as the East Indian Ocean (EIO) pygmy blue whale population, migrate biannually through the NWMR. This population is seasonally distributed from Indonesia (a potential breeding ground) to south-west of Australia and east across the Great Australian Bight and Bonney Upwelling to beyond the Bass Strait (Blue Planet Marine, 2020; McCauley et al., 2018). Migration seems to be variable, with some individuals appearing as resident to areas of high productivity and others undertaking migrations across long distances (Commonwealth of Australia, 2015a). McCauley et al. (2018) describe three migratory stages around Australia for the EIO pygmy blue whale population, based on collated passive acoustic data: a 'southbound migratory stage' where whales travel southwards from Indonesian waters offshore from the WA coastline, mostly from October to December but possibly into January of the following year; a protracted 'southern Australian stage' (January to June) where animals spread across southern waters of the Indian Ocean and south of Australia (with movement as far south as the Southern Subtropical Convergence Zone); and a 'northbound migratory stage' (April to August) where animals travel north back to Indonesia again. Extensive passive acoustic monitoring throughout the NWMR indicates migratory timing and distribution of pygmy blue whales (noting this survey method detects vocalising whales): - Acoustic monitoring conducted by McCauley and Jenner (2010) in the Exmouth and northern Montebello Islands region identified a peak period in the northern migration of pygmy blue whales from April to August, and from November through to late December during the southern migration. - Northbound migration between mid-April and early August and southbound migration between October to December and possibly into January for the Scott Reef area 2006-2009 (McCauley, 2011) (noting the absence of any southbound detection in 2007). - Noise loggers deployed for a full year period in 2019 detected pygmy blue whales on their northern and southern migration. The noise loggers were located at various locations ~40–50 km west of the project area, and in ~1300 m water depth. The majority of pygmy blue whales detected on their northern migration occurred from mid-April to the end July, then again on their southern migration in November through to early December (Chevron Australia, 2019) - Gavrilov et al. (2018) analysed acoustic data from an array of ocean bottom seismographs (recorded in December 2014) to detect pygmy blue whales and showed the southbound migration was over an extended offshore corridor traversing an area up to 400 km to the northwest of the North-west Cape. - A targeted passive acoustic monitoring program to detect southbound migratory pygmy blue whales ran from late October 2021 to March 2022 with a deepwater ALTO lander (900 m depth) to the west of the Montebello Trough and C-lander (190 m depth) at the outer edge of the NWS (Warren et al., 2023). Despite vessel noise dominating low frequencies throughout the recording periods at both recording locations, pygmy blue whale song vocalisations and D-calls were detected from the start of the recording period through November and early December 2021. - An offshore trial of Distributed Acoustic Sensing (DAS) using fibre optic cables (submarine telecommunications cable) to detect low-frequency whales recorded vocalising pygmy blue whales within 12 km detection range within a 50 km long area on the outer edge of NWS (Debens et al. 2024). Pygmy blue whale detections were made from mid-November (commencement of the trial) through to mid-December 2023 and a couple of detections in early January 2024. The first satellite tracks of pygmy blue whales for this population documented northbound migration between Western Australia and Indonesia (Double et al., 2014) and identified areas where whales had highest occupancy, such as Perth Canyon, Naturalist Plateau, North-west Cape region and the Banda Sea. Pygmy blue whales tagged in the Bonney Upwelling region of South Australia in 2015 showed that most of the tagged whales remained in South Australian waters during the tracking period but one documented the migration to Indonesia via Western Australian waters and a return journey (albeit via intermittent data) of the southbound migration to the southern coast of Western Australia (Möller et al., 2020). Thums et.al. (2022) used passive acoustic monitoring and satellite telemetry data (a combination of existing data and tag tracking data collected for Western Australia 2019–2022) to assess the spatial extent of the distribution, migration and foraging areas for pygmy blue whales in the South-east

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	Key Information
	Indian Ocean associated with the northbound migration. The tag tracking results highlighted extensive use of slope habitat off Western Australia and minimal use of shelf habitat by pygmy blue whales. Additionally, pygmy blue whales off Western Australia were mostly engaged in migration, with short periods of foraging. Whale density was highest in the southern part of the North-west Australian coast and whales were there between April–June, and November–December. This study also compared foraging and migration areas to described areas of importance (BIAs), some aligned such as migratory BIA for northbound pygmy blue whales whilst some had less than 10% overlap (Thums et al., 2022). The timing, distribution and behaviour of southbound pygmy blue whales is less well documented with reference to satellite tagging. Limited tagged whale data from Double et al. (2014), Möller et al. (2020) and Thums et al. (2022) indicated connectivity of migrating pygmy blue whales from South Australia through Western Australia to and back from Indonesia. Mustika et al. (2024), satellite tag tracking data for two southbound pygmy blue whales (tagged in Indonesia) suggest varying migratory pathways from the Savu Sea to subantarctic waters as well as extended time in the Southern Subtropical Convergence Zone. One tagged whale traversed a migratory path through offshore waters of Western Australia towards Heard and McDonalds islands covering a distance of almost 6000 km and travelling at 100 km per day. In contrast a second tagged whale took a migratory journey similar to the documented northbound route to the North-west Cape before heading out into offshore waters and spending time in the Subantarctic Front before looping back up through the Perth Canyon, North-west Cape and towards Savu Sea (Mustika et al., 2024). There is currently insufficient data to accurately estimate population numbers of the pygmy blue whale in Australian waters (Blue Planet Marine, 2020; Commonwealth of Australia, 2015a). There are, however, two estimates of population size of the EIO pygmy blue whale for WA. McCauley and Jenner (2010) calculated the population to be between 662 and 1559 individuals in 2004 based on passive acoustics (whale vocalisations), and Jenner et al. (2008) (based on photographic mark and recapture) calculated between 712 and 1754 individuals, but both estimates did not account for animals travelling further west into the Indian Ocean (McCauley et al., 2018). More recent passive acoustic data estimates a 4.3% growth rate that applies to the proportion of EIO pygmy blue whales seasonally present in offshore water off south-eastern Australia and may not reflect the full population but does imply an increasing population (McCauley et al., 2018). Thums et al., (2022) identified the most important foraging (and/ or resting/ breeding) areas from south to north as: (1) the Perth Canyon and vicinity; (2) the shelf edge off Geraldton; (3) the shelf edge from Ningaloo Reef to the Rowley Shoals (not continuous) and including a couple of small areas near the shelf edge off approx. 25°S; and (4) the Banda Sea. The Foraging BIA off the South-west of Western Australia encompassed 83% of the most important areas in that region (Thums et al., 2022). The pygmy blue whale is typically present in the Perth Canyon from November to June, with an observed peak between March and May (Commonwealth of Australia, 2015a; Blue Planet Marine, 2020). The pygmy blue whale feeds in the Perth Canyon at depths of 200 to 300 m, which overlaps the typical distribution of krill (200–500 m water depth (day) to surface (night)) (McCauley et al., 2004; Commonwealth of Australia, 2015a). Other possible feeding grounds off the WA coast include the wider area around the Perth Canyon, and possible foraging areas off the Ningaloo Coast and at Scott Reef (Commonwealth of Australia, 2015a). The seasonal presence of pygmy blue whales is presented in Table 9-1. Refer Table 7-3 and Figure 7-4 for the location and type of BIAs for blue whales in the NWMR. There is a migratory BIA for the pygmy blue whale within WA waters, which extends for most of the length of the NWMR within offshore waters.

Species	Key Information
Bryde's whale	The Bryde's whale is the least migratory of its genus and is restricted geographically from the equator to approximately 40°N and S, or the 20° isotherm (Bannister et al., 1996). The species is known to exhibit inshore and offshore forms varying in morphology and migratory behaviours in other international locations (Bannister et al., 1996). This appears to also be the case within Australian waters. Bryde's whales have been identified as occurring in both oceanic and inshore waters, with the only key localities recognised in WA being in the Houtman Abrolhos Islands and north of Shark Bay (Bannister et al., 1996). Data suggests offshore whales migrate seasonally, heading towards warmer tropical waters during the winter; however, information about migration within the NWMR is not well known (McCauley and Duncan, 2011). McCauley (2011b) detected Bryde's whales using acoustic loggers deployed in and around Scott Reef from 2006 to 2009. Other acoustic logger data of Bryde's whale vocalisations recorded between Ningaloo and north of Darwin showed no apparent trends or seasonality (McCauley, 2011a). There are no identified BIAs for this species in the NWMR.
Southern right whale	The southern right whale occurs primarily in waters between about 20°S and 60°S and moves from high latitude feeding grounds in summer to warmer, low latitude, coastal locations in winter (Bannister et al., 1996). Two populations of southern right whale occur in Australian waters: the western and eastern (DCCEEW, 2024a). Southern right whales in Australian waters predominantly occur in aggregations in coastal water reproductive areas where they calve and nurse their young from May to October, primarily occupying shallow waters (< 10m depth) within 1 km of the coastline (Charlton et al., 2019; Smith et al., 2022, cited in DCCEEW, 2024a). Peak period of abundance is late July to August, with seasonal variability. Females accompanied by a calf generally occupy the calving ground for two to three months between June and September (DCCEEW, 2024a). For the western population, breeding occurs in Exmouth Gulf and in calving areas along the south coast of WA outside of the NWMR (DCCEEW, 2023). A stranding record exists for the far north Kimberley coast (ALA, 2006). Known females have rarely been observed on the Australian coastline in the year prior to calving, suggesting mating and conception may predominantly occur away from calving grounds, potentially on feeding grounds (Watson et al., 2021 cited in DCCEEW, 2024a). There is a significant energetic cost to the mother in the late stages of gestation (i.e. last trimester) and calf growth rate has been found to be dependent on the maternal body size and condition of the mother (Christiansen et al. 2018 and Christiansen et al. 2022 cited in DCCEEW, 2024a). Foraging ecology of southern right whales is poorly understood and observations of foraging whales are rare (DCCEEW, 2024a). There is evidence of a population increase of the western population, whereas there is greater uncertainty of the population status and trends of the eastern population (DCCEEW, 2024a). Southern right whale abundance in Australian waters is still far below estimated historic abundance (>20%) (DCCEEW, 2024a). There is a reproduction BIA and habitat critical to survival (HCTS) for the southern right whale located within Exmouth Gulf (DCCEEW, 2024a). A migration BIA extends 3 NM out from the coastline from Ningaloo and spans down the Western Australian coastline and across the south and south-east coast of Australia (DCCEEW, 2024a). Nursing and calving behaviours are known to occur within reproductive BIAs. HCTS for the southern right whale has been identified as all reproductive BIAs across the species range (DCCEEW, 2024a). Refer Figure 7-1 and Section 7.6 for HCTS for southern right whale in the NWMR. Refer to Table 7-3 and Figure 7-5 for BIAs for southern right whales in the NWMR

Species	Key Information
Antarctic minke whale	The Antarctic minke whale have a circumpolar distribution south of 60°S during summer (Risch et al., 2019) and has been recorded off all Australian States (apart from the NT) in winter (refer to DCCWE SPRAT profile). Their seasonal distribution and migration patterns are poorly understood (Risch et al., 2019). The species is highly associated with sea ice and feeds in cold Antarctic waters over the summer. It is thought that the Antarctic minke whale migrates through offshore waters of Western Australia to about 20°S to feed and possibly breed (Bannister et al., 1996). Information about timing and distribution, behaviour (migration and breeding) within the NWMR, however, is presently not known. In the high latitudinal winter breeding grounds in other regions, the species appears to be distributed off the continental shelf edge. No population estimates are available for Antarctic minke whales in Australian waters. Acoustic detection has been recorded for the Perth Canyon and Exmouth Plateau (McCauley, 2011) and more recently acoustic detection indicated presence in offshore waters of NWS in late October and all of November and was absent (based on no vocalisation and detection) in December 2021 to March 2022 (over a monitoring period from October 2021 to March 2022) (Warren et al., 2023). There are no identified BIAs for this species in the NWMR.
Sei whale	The sei whale is a baleen whale with a worldwide oceanic distribution and is expected to seasonally migrate between low latitude wintering areas and high latitude summer feeding grounds (Bannister et al., 1996; Prieto et al., 2012). There are no known mating or calving areas in Australian waters. The species has a preference for deep waters, typically occurs in oceanic basins and continental slopes (Prieto et al., 2012), and exhibits a migration pathway influenced by seasonal feeding and breeding patterns. Sei whales have been infrequently recorded in Australian waters (Bannister et al., 1996). Reliable estimates of the sei whale population size in Australian waters are currently not possible due to a lack of dedicated surveys and their elusive characteristics. Similarly, the extent of occurrence and area of occupancy of sei whales in Australian waters cannot be calculated due to the rarity of sighting records. They will typically travel in small pods of three to five individuals, with some segregation by age, sex and reproductive status. Calving grounds are presumed to exist in low latitudes with mating and calving potentially occurring during winter months (Threatened Species Scientific Committee, 2015a). There are no known mating or calving areas in Australian waters, and there are no identified BIAs for this species in the NWMR.
Fin whale	The fin whale is a large baleen whale distributed worldwide. Fin whales migrate annually between high latitude summer feeding grounds and lower latitude over-wintering areas (Bannister et al., 1996) and follow oceanic migration paths. The species is uncommonly encountered in coastal or continental shelf waters. Australian Antarctic waters are important feeding grounds for fin whales but there are no known mating or calving areas in Australian waters (Morrice et al., 2004). The species has been observed in groups of six to 10 individuals, as well as in pairs and alone (Threatened Species Scientific Committee, 2015c). Accurate distribution patterns are not known within Australian waters and the majority of data is from stranding events. Fin whales have been recorded vocalising off the Perth Canyon, WA, between January and April 2000 (McCauley et al., 2000). It is currently not possible to accurately estimate the population size of fin whales in Australian waters predominantly due to the species' behaviour and local ecology, as the proportion of time they spend at the surface varies greatly depending on these factors. In addition, natural fluctuations of fin whales in Australian waters are unknown; however, long-range movements do appear to be prey-related (Aulich et al., 2022). A recent study by Aulich et al. (2022) used passive acoustic monitoring as a tool to identify the migratory movements of fin whales in Australian waters. On the west coast, the earliest arrival of these animals from Antarctica occurred at Cape Leeuwin in April, and between May and October they migrated along the WA coastline to the Perth Canyon, which likely acts as a feeding zone for migratory whales (Aulich et al., 2022). Some whales were found to continue migrating northwards along the WA coastline with vocalisation presence recorded as far north as Dampier between August and late October (Aulich et al., 2022). There are no identified BIAs for this species in the NWMR.

Species	Key Information
Omura's whale	Omura's whale is a species of baleen whale that was first described in 2003. Previously specimens of Omura's whale were identified as pygmy/dwarf Bryde's whales, however morphological and molecular evidence identified Omura's whale as a distinct species not closely related to Bryde's whale in 2003 (Ottewell et al., 2016). It was believed that the range of Omura's whale was restricted to the eastern Indo-Pacific, however recent discoveries suggest the species may have a more widespread distribution (Ottewell et al., 2016; Cerchio et al., 2019). In Australia, presence of this species was confirmed in 2015 when, what was later determined to be an Omura's whale, was stranded on the northwest coast of Australia, near Exmouth (Ottewell et al., 2016). An in-depth review conducted by Cerchio et al. (2019) concluded that Omura's whale can primarily be found in tropical and warm-temperate waters and is currently known from all ocean basins excluding the central and eastern Pacific. Further, a strong tendency toward a coastal and neritic water distribution was found, although there were several pelagic water records, the majority of which were on the continental shelf and within shallow seas throughout the documented range (Cerchio et al., 2019). Omura's whales were detected by passive acoustic monitoring: Warren et al. (2023) targeted passive acoustic monitoring program to detect southbound migratory pygmy blue whales ran from late October 2021 to March 2022 with a deepwater ALTO lander (900 m depth) to the west of the Montebello Trough and C-lander (190 m depth) at the outer edge of the NWS. Calls of the Omura's whales were detected at both recording locations throughout the recording period. Detections were, however, more common at the deeper water location, in terms of both number of detection days and number of detection hours per day (Warren et al., 2023). The shelf edge location showed Omura's present primary in December, however this lander malfunctioned and stopped recording in mid-January 2022. An offshore trial of distributed acoustic sensing (DAS) using fibre optic cables (submarine telecommunications cable) to detect low-frequency whales recorded vocalising Omura's whales within 12 km detection range along a 50 km long area on the outer edge of NWS (Debens et al., 2024). Omura's whale detections were made from at the beginning of December 2023 through to mid-January 2024 (and the end of the trial). Currently little is known about the ecology and life history characteristics of Omura's whale resulting in an IUCN listing of Data Deficient. There are no identified BIAs for this species in the NWMR.

Species	Key Information
Toothed whales (Odontoceti) – High Frequency hearing	
Sperm whale	Sperm whales are the largest of the toothed whales and are distributed worldwide in deep waters (greater than 200 m) off continental shelves and sometimes near shelf edges (Bannister et al., 1996). The species tends to inhabit offshore areas at depths of 600 m or more and is uncommon in waters less than 300 m deep (Ceccarelli et al., 2011). There is limited information about sperm whale distribution in Australian waters, however, they are usually found in deep offshore waters, with more dense populations close to continental shelves and canyons. In the open ocean, there is a generalised movement of sperm whales southwards in summer, and corresponding movement northwards in winter, particularly for males. Detailed information about the distribution and migration patterns of sperm whales off the WA coast is not available. Females with young may reside within the NWMR all year round, males may migrate through the region and the species may be associated with canyon habitats (Ceccarelli et al., 2011). Sperm whales have been recorded in deep waters off North-west Cape and appear to occasionally venture into shallower waters in other areas. Twenty-three sightings of sperm whales (variable pod sizes, ranging from one to six animals) were recorded by marine mammal observers (MMOs) during the North- west Cape MC3D marine seismic survey (December 2016 to April 2017) (Woodside, 2020). These animals were observed in deep, continental slope waters of the Montebello Saddle (maximum distance of approximately 90 km from North-west Cape), and the waters overlying the Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEF. The deep waters above the gully/saddle on the inner edge of the plateau (the Montebello Saddle) are thought to be important for sperm whales that may feed in the region (based on 19th Century whaling records; Townsend, 1935). Recent studies such as acoustic detection indicated sperm whale presence in deep, offshore waters but not at the edge of the NWS (over a monitoring period of October 2021 to March 2022, for the deepwater location). However, while sperm whales were detected every month, occurring in bouts, there was no evidence for lasting use of the area around this recording location (Warren et al., 2023). Ferriera et al. (2024) reported sperm whale sightings off the North-west Cape in May 2023. A total of 26 individual sperm whales were sighted about 30 km offshore in groups up to ten individuals. The sperm whales were observed displaying surface logging behaviour with frequent and numerous blows prior to flukes up dives (indicative of deep feeding behaviour). Such aggregations appear to be an annual occurrence and at the same time as migratory pygmy blue whale feed and move through the same area, to the west and offshore of Ningaloo and North-west Cape. There are no identified BIAs for this species in the NWMR.
Orca (killer whale)	The preferred habitat of killer whales includes oceanic, pelagic and neritic (relatively shallow waters over the continental shelf) regions, in both warm and cold waters. Killer whales appear to be more common in cold, deep waters; however, they have been observed along the continental slope and shelf, particularly near seal colonies, as well as in shallow coastal areas of WA (Bannister et al., 1996; Thiele and Gill, 1999). The total number of killer whales in Australian waters is unknown, however, it may be that the total number of mature animals within waters around the continent is less than 10,000. Killer whales are known to make seasonal movements, and probably follow regular migratory routes, but no information is available for the species in Australian waters. Killer whales are top-level carnivores, and there are reports from around Australia of attacks on dolphins, juvenile humpback whales, blue whales, sperm whales, dugongs and Australian sea lions (Bannister et al., 1996). Killer whales are known to target humpback whales, particularly calves, off Ningaloo Reef during the humpback southern migration season (Pitman et al., 2015). Overall, observations suggest that humpback calves are a predictable, plentiful, and readily taken prey source for killer whales off Ningaloo Reef for at least five months of the year. Additionally, there are records of killer whales attacking dugongs in Shark Bay (Anderson and Prince, 1985). However, there are no recognised key localities or important habitats for killer whales within the NWMR (DSEWPAC, 2012a). There are no identified BIAs for this species in the NWMR.

Species	Key Information
Australian snubfin dolphin	Stranding and museum specimen records indicate that Australian snubfin dolphins occur only in waters off northern Australia, from approximately Broome on the west coast to the Brisbane River on the east coast (Parra et al., 2002). Aerial and boat-based surveys indicate that Australian snubfin dolphins occur mostly in protected shallow waters close to the coast, and close to river and creek mouths (Parra, 2006; Parra et al., 2006; Parra et al., 2002). Within the NWMR, this species has been found in the shallow coastal waters and estuaries along the Kimberley coast. Beagle and Pender bays on the Dampier Peninsula, and tidal creeks around Yampi Sound and between Kuri Bay and Cape Londonderry are important areas for Australian snubfin dolphins (DEWHA, 2008). Roebuck Bay has generally been considered the south-western limit of snubfin dolphin distribution across northern Australia, but the species has been recorded in Port Hedland harbour, the Dampier Archipelago, Montebello Islands, Exmouth Gulf and off North-west Cape (Allen et al., 2012). Roebuck Bay supports one of the largest known populations of Australian snubfin dolphins (D'Cruz et al., 2022). A first comprehensive catalogue of snubfin dolphin sightings has been compiled for the Kimberley, north-west Western Australia (Bouchet et al. 2021) and documented that snubfin dolphins are consistently encountered in shallow water (<21 m depth) close to (<15 km) freshwater inputs with high detection rates in known hotspots such as Roebuck Bay and Cygnet Bay as well as suitable coastal habitat in the wider Kimberley region. Refer Table 7-3 and Figure 7-6 for the location and type of BIAs for Australian snubfin dolphins in the NWMR.
Indo-Pacific humpback dolphin (Australian humpback dolphin)	Previously included with <i>Sousa chinensis</i>, the Australian humpback dolphin (<i>S. sahuensis</i>) was elevated to a species in 2014. <i>S. chinensis</i> is now applied for humpback dolphins in the eastern Indian and western Pacific Oceans and <i>S. sahuensis</i> for humpback dolphins in the waters of the Sahul Shelf from northern Australia to southern New Guinea (Jefferson and Rosenbaum, 2014). The Australian humpback dolphin is listed as <i>S. chinensis</i> under the EPBC Act. The Australian humpback dolphin (referred to as 'humpback dolphin' hereafter) inhabits the tropical/subtropical waters of the Sahul Shelf across northern Australia and southern Papua New Guinea (Jefferson and Rosenbaum, 2014). Based on historical stranding data, museum specimens and opportunistic sightings collected during aerial and boat-based surveys for other fauna, it has been inferred that humpback dolphins occur from the WA/NT border south-west to Shark Bay (Hanf et al., 2016). Allen et al. (2012) suggested that humpback dolphins use a range of inshore habitats, including both clear and turbid coastal waters across northern WA. The waters surrounding North-west Cape are an important area for the species. Boat-based surveys up to 5 km out from the coast (Brown et al., 2012) recorded humpback dolphins from 0.3 to 4.5 km away from shore and in depths ranging from 1.2 to 20 m, with a mean of ~8 m. Other studies around North-west Cape, surveying waters up to 5 km from the coast, recorded humpback dolphins in water depths of up to 40 m (Hanf et al., 2016). Based on density, site fidelity and residence patterns, North-west Cape is clearly an important habitat toward the south-western limit of this species' range (Hunt et al., 2017). Humpback dolphins do not appear to undergo large-scale seasonal migrations, although seasonal shifts in abundance have been observed (Parra & Cagnazzi, 2016 cited in DCCEEW, 2023a). Aerial transect surveys conducted in the Kimberley region show the abundance for humpback dolphins was estimated to be 1546 in 2016 and 2690 in 2017 (Raudino et al., 2023). Dolphin densities were greatest in inshore waters, with greatest densities in Exmouth Gulf, Dampier Archipelago, and Great Sandy Islets (Raudino et al., 2023). Aerial surveys targeting dugongs over the western Pilbara have recorded humpback dolphins more than 60 km from the mainland in shallow shelf waters (i.e. <30 m deep) near Barrow Island and the western Lowendal Islands (Hanf, 2015). The species has also been recorded in fringing coral reef and shallow, sheltered sandy lagoons at the Montebello Islands (Raudino et al., 2018). Over the past ten years a number of studies have focused on populations of humpback dolphins along the Kimberley coast, including Roebuck Bay, the Dampier Peninsula, Cone Bay, Yampi Sound, Prince Regent River and the Cambridge Gulf (Brown et al., 2016). Refer Table 7-3 and Figure 7-7 for the location and type of BIAs for Indo-Pacific humpback dolphins in the NWMR. It is also noted that findings reported by Brown et al., (2014) indicated there was evidence of hybridisation of the Australian snubfin and humpback dolphin populations in north-western Australia.

Species	Key Information
Indo-Pacific bottlenose dolphin (Spotted bottlenose dolphin)	There are four known sub-populations of spotted bottlenose dolphins, of which the Arafura/Timor Sea populations were identified as potentially occurring within the NWMR. The species is restricted to inshore areas such as bays and estuaries, nearshore waters, open coast environments, and shallow offshore waters including coastal areas around oceanic islands, from Shark Bay to the western edge of the Gulf of Carpentaria. The species forages in a range of habitats but is generally restricted to water depths of less than 200 m (DSEWPAC, 2012a). Important foraging/breeding areas include the shallow coastal waters and estuaries along the Kimberley coast and Roebuck Bay. Aerial transect surveys conducted in the Kimberley region showed the abundance for the bottlenose dolphins has been declining with estimated abundance of 3713 in 2015, 2638 in 2016 and 1635 in 2017. Dolphin densities were greatest in inshore waters, with greatest densities in Exmouth Gulf, Dampier Archipelago, and Great Sandy Islets (Raudino et al., 2023). A study at North-west Cape found that during winter months, presence in coastal lagoons west of the North-west Cape was more likely than other seasons. In spring, probability of spotted bottlenose dolphin occurrence was higher outside of the Ningaloo Marine Park (noting summer data was not included in this study) (Haughey et al., 2021). Refer Table 7-3 and Figure 7-8 the location and type of BIAs for spotted bottlenose dolphins in the NWMR.
Sirenians	
Dugong	Dugongs are distributed along the WA coast throughout the Gascoyne, Pilbara and Kimberley. Specific areas supporting dugong populations include: Shark Bay; Ningaloo and Exmouth Gulf; the Pilbara coast (Exmouth Gulf to De Grey River [Marsh et al., 2002]); and Eighty Mile Beach and the Kimberley coast, including Roebuck Bay (Bayliss and Hutton, 2017). Dugong distribution is correlated with the seagrass habitats upon which it feeds, although water temperature has also been correlated with dugong movements and distribution (Preen et al., 1997; Preen, 2004). Dugongs are known to migrate between seagrass habitats (hundreds of kilometres) (Sheppard et al., 2006), and in Shark Bay they exhibit seasonal movements as a behavioural thermoregulatory response to winter water temperatures (Holley et al., 2006; Marsh et al., 2011). Abundance aerial surveys have been conducted in Australian dugong habitat areas since the early 1980s. These surveys indicate that dugong populations are now stable at a regional scale in Shark Bay and in the Exmouth and Ningaloo Reef area. The entire Kimberley region has only been surveyed in 2015 and 2017, so only baseline information on dugong distribution and abundance is available for Ningaloo and Shark Bay areas (Cleguer and Marsh, 2023). Refer Table 7-3 and Figure 7-9 for the location and type of BIAs for dugong in the NWMR.

Species	Key Information
<i>Pinnipeds</i>	
Australian sea lion	The Australian sea lion is the only endemic pinniped (true seals, fur seals and sea lions) in Australian waters. It is a member of the Otariidae (eared seals) family. The birth interval in Australian sea lions is around 17–18 months. The Australian sea lion is unique among pinnipeds in being the only species that has a non-annual breeding cycle that is also temporally asynchronous across its range (DSEWPAC, 2013a; Threatened Species Scientific Committee, 2020a). This means the breeding period (copulation and birthing) in one colony will occur at different times to breeding in another colony. The Australian sea lion is a specialised benthic forager—that is, it feeds primarily on the sea floor. Studies have shown that the species will eat a range of prey, including fish, cephalopods (squid, cuttlefish and octopus), sharks, rays, rock lobsters and penguins (DSEWPAC, 2013a; Threatened Species Scientific Committee, 2020a). The Australian sea lion feeds on the continental shelf, most commonly in depths of 20–100 m, and they typically travel up to about 60 km from their colony on each foraging trip, with a maximum distance of around 190 km when over shelf waters. The current breeding distribution of the Australian sea lion extends from the Houtman Abrolhos Islands on the west coast of WA to the Pages Islands in SA. Sites for the 58 breeding colonies occurring in WA and SA are designated as habitat critical to the survival of the species under the Recovery Plan for the Australian sea lion (DSEWPAC, 2013a). Of these, four are located in the SWMR along the west coast of WA: Abrolhos Islands (Easter Group), Beagle Island, North Fisherman Island and Buller Island. There are also a number of foraging BIAs for both males and females along the west coast, extending from the Abrolhos Islands south to Rockingham. There is no designated habitat critical to survival or identified BIAs for this species in the NWMR. Figure 7-9 shows the foraging BIAs for the Australian sea lion to the south of the NWMR in the northern extent of the SWMR.

7.6 Habitat Critical to the Survival for Marine Mammals in the NWMR

The southern right whale is the only marine mammal which has habitat critical to the survival (HCTS) of a species defined.

The National Recovery Plan for the Southern Right Whale (DCCEEW, 2024a) identifies HCTS under the EPBC Act. The *EPBC Act Significant Impact Guidelines 1.1 – Matters of National Environmental Significance 2013* state that “An action is likely to have a significant impact on a threatened species if there is a real chance or possibility that it will: adversely affect habitat critical to the survival of a species.” The definition of HCTS for a species are areas necessary:

- for activities such as foraging, breeding, roosting, or dispersal
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators)
- to maintain genetic diversity and long-term evolutionary development, or
- for the reintroduction of populations or recovery of the species or ecological community.

HCTS for the southern right whale has been identified as all reproductive BIAs across the species range (Figure 7-1). The identification of HCTS reflects that southern right whales display strong site fidelity to calving areas in Australian coastal waters, within and between years, over decadal time spans (Bannister, 2001; Charlton et al., 2021; Watson et al., 2021 cited in DCCEEW, 2024a). Reproductive areas have been identified as HCTS for the species, because:

- they meet the species’ essential life cycle requirements for reproduction (e.g., mating, calving, and nursing) and reproduction is known to occur at that location
- there is a level of occupancy by individual breeding females at these locations of multiple days in any given year, and across multiple years, for long-term maintenance of the species
- they are critical for recovery of the southern right whale in terms of expanding habitat occupancy and contributing to the maintenance of genetic diversity as site fidelity may lead to small-scale genetic differences.

No ‘Critical Habitat’ as defined under section 207A of the EPBC Act has been identified for the southern right whale (DCCEEW, 2024a).

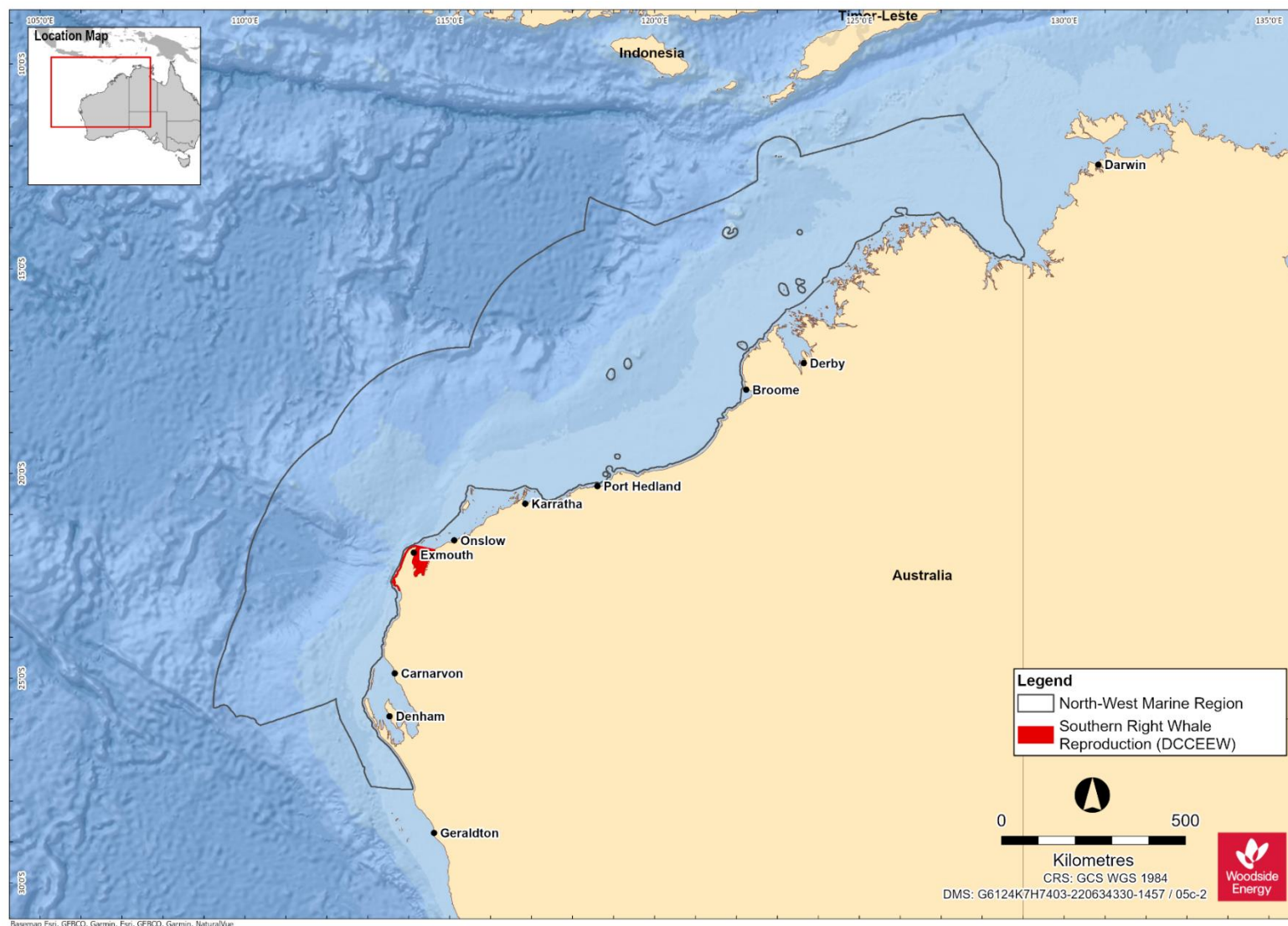


Figure 7-1: Habitat critical to the survival for the southern right whale in the NWMR (DCCEEW, 2024a)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

7.7 Biological Important Areas in the NWMR

A review of the Australian Marine Spatial Information System (GA, 2024) identified BIAs representing important life cycle stages and behaviours for six species of marine mammal in the NWMR: the humpback whale, the pygmy blue whale, Australian snubfin dolphin, Australian humpback dolphin, spotted bottlenose dolphin and dugong, are presented in Table 7-3.

Table 7-3: Marine mammal BIAs within the NWMR

Species	Woodside Activity Area			BIAs				
	Browse	NWS/S	NWC	Resting	Foraging ¹³	Reproduction		Migration
						Breeding	Calving	
Humpback whale ¹¹	✓	✓	✓	Shark Bay Exmouth Gulf (north migration – early June) (south migration – late Aug to Oct) Southern Kimberley region	No foraging BIA identified within the NWMR	Nursing Kimberley coast from the Lacepede Islands to north of Camden Sound (mid Aug–early Sept)	Core calving in waters off the Kimberley coast from the Lacepede Islands to north of Camden Sound (mid Aug–early Sept)	Southern border of the NWMR to north of the Kimberley (arrive June).
Blue whale and pygmy blue whale ^{14 15}	✓	✓	✓	No resting BIA identified within the NWMR	Possible foraging areas off Ningaloo and Scott Reef	No breeding BIA identified within the NWMR	No calving BIA identified within the NWMR	Augusta to Derby. Along the shelf edge at depths of 500 m to 1000 m; appear close to Ningaloo Coast Montebello Islands area on southern migration (north: April–Aug) (south: Oct–late Dec). Potentially still present January (McCauley et al., 2018).
Southern right whale ¹⁶	-	-	✓	No resting BIA identified within the NWMR	No foraging BIA identified within the NWMR	Exmouth Gulf	No calving BIA identified within the NWMR	Migration along Australian coastline between April to October extending up to the Exmouth Gulf breeding BIA.

¹³ Includes areas defined as 'foraging', 'foraging likely' and 'foraging (high density prey)' as per AMSIS (GA, 2024). These areas are shown in the BIA figures.

¹⁴ DSEWPAC (2012a).

¹⁵ Commonwealth of Australia (2015a).

¹⁶ Revised BIAs (October 2023) - <https://www.dcceew.gov.au/environment/marine/bias>.

Species	Woodside Activity Area			BIAs				
	Browse	NWS/S	NWC	Resting	Foraging ¹³	Reproduction		Migration
						Breeding	Calving	
Australian snubfin dolphin ¹¹	✓	✓	-	Cambridge Gulf Camden Sound area Prince Regent River Admiralty Gulf Parry Harbour Bougainville Peninsula Vansittart Bay Anjo Peninsula Napier Broome Bay Deep Bay King George River Cape Londonderry Ord River	Roebuck Bay Cambridge Gulf Camden Sound area King Sound (south) King Sound (north) Yampi Sound Talbot Bay Maret Islands Bigge Island Admiralty Gulf Parry Harbour Bougainville Peninsula Vansittart Bay, Anjo Peninsula Napier Broome Bay Deep Bay Prince Regent River King George River Cape Londonderry Ord River	Roebuck Bay Cambridge Gulf Camden Sound area King Sound (south) King Sound (north) Yampi Sound Talbot Bay Maret Islands Bigge Island Admiralty Gulf Parry Harbour Bougainville Peninsula Vansittart Bay, Anjo Peninsula Napier Broome Bay Deep Bay Prince Regent River King George River Cape Londonderry Ord River	Roebuck Bay Cambridge Gulf Camden Sound area King Sound (south) King Sound (north) Yampi Sound Talbot Bay Maret Islands Bigge Island Admiralty Gulf Parry Harbour Bougainville Peninsula Vansittart Bay, Anjo Peninsula Napier Broome Bay Deep Bay Prince Regent River King George River Cape Londonderry Ord River	No migration BIA identified within the NWMR.

Species	Woodside Activity Area			BIAs				
	Browse	NWS/S	NWC	Resting	Foraging ¹³	Reproduction		Migration
						Breeding	Calving	
Indo-Pacific humpback dolphin	✓	✓	-	No resting BIA identified within the NWMR	Roebuck Bay Willie Creek Prince Regent River King Sound (north) Yampi Sound Talbot Bay Walcott Inlet Doubtful Bay Deception Bay Augustus Island Maret Islands Bigge Island King Sound, southern sector Vansittart Bay, Anjo Peninsula	Roebuck Bay Willie Creek Prince Regent River King Sound (north) Yampi Sound Talbot Bay Walcott Inlet Doubtful Bay Deception Bay Augustus Island	Roebuck Bay Willie Creek Prince Regent River	No migration BIA identified within the NWMR.
Spotted bottlenose dolphin	✓	✓	✓	No resting BIA identified within the NWMR	Roebuck Bay Camden Sound area King Sound (south) King Sound (north) Yampi Sound	Roebuck Bay King Sound (south) King Sound (north) Yampi Sound	Roebuck Bay Camden Sound area King Sound (south) King Sound (north) Yampi Sound	Dampier Peninsula.
Dugong ¹¹	✓	✓	✓	No resting BIA identified within the NWMR	Exmouth Gulf Ningaloo Reef Shark Bay Roebuck Bay Dampier Peninsula	Eastern side of Dirk Hartog Island May–September Exmouth Gulf and Ningaloo year-round	Exmouth Gulf Ningaloo Reef Shark Bay	Within Shark Bay June–November and within Roebuck Bay year-round.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

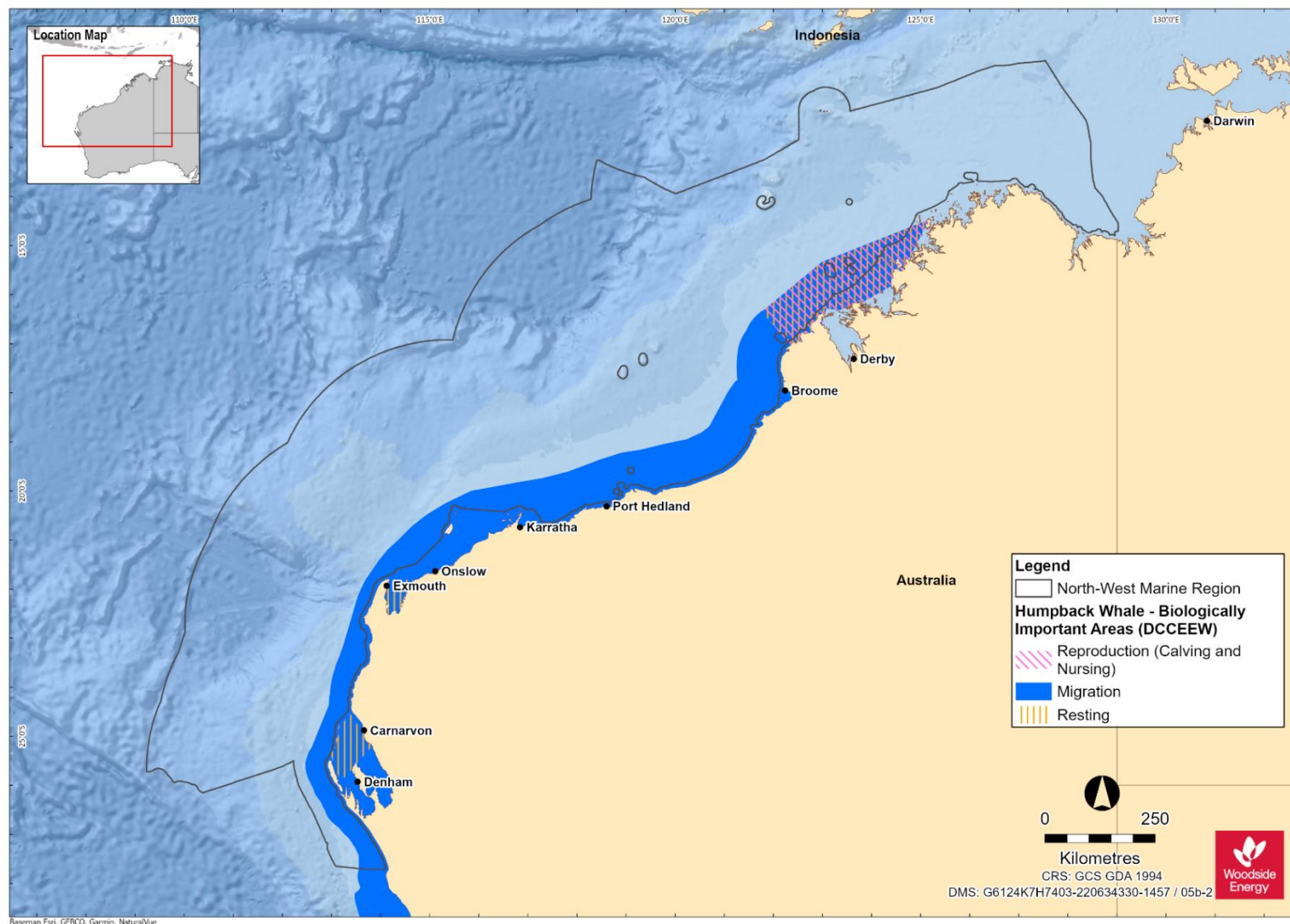


Figure 7-2: Humpback whale BIAs for the NWMR (data source: DCCEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

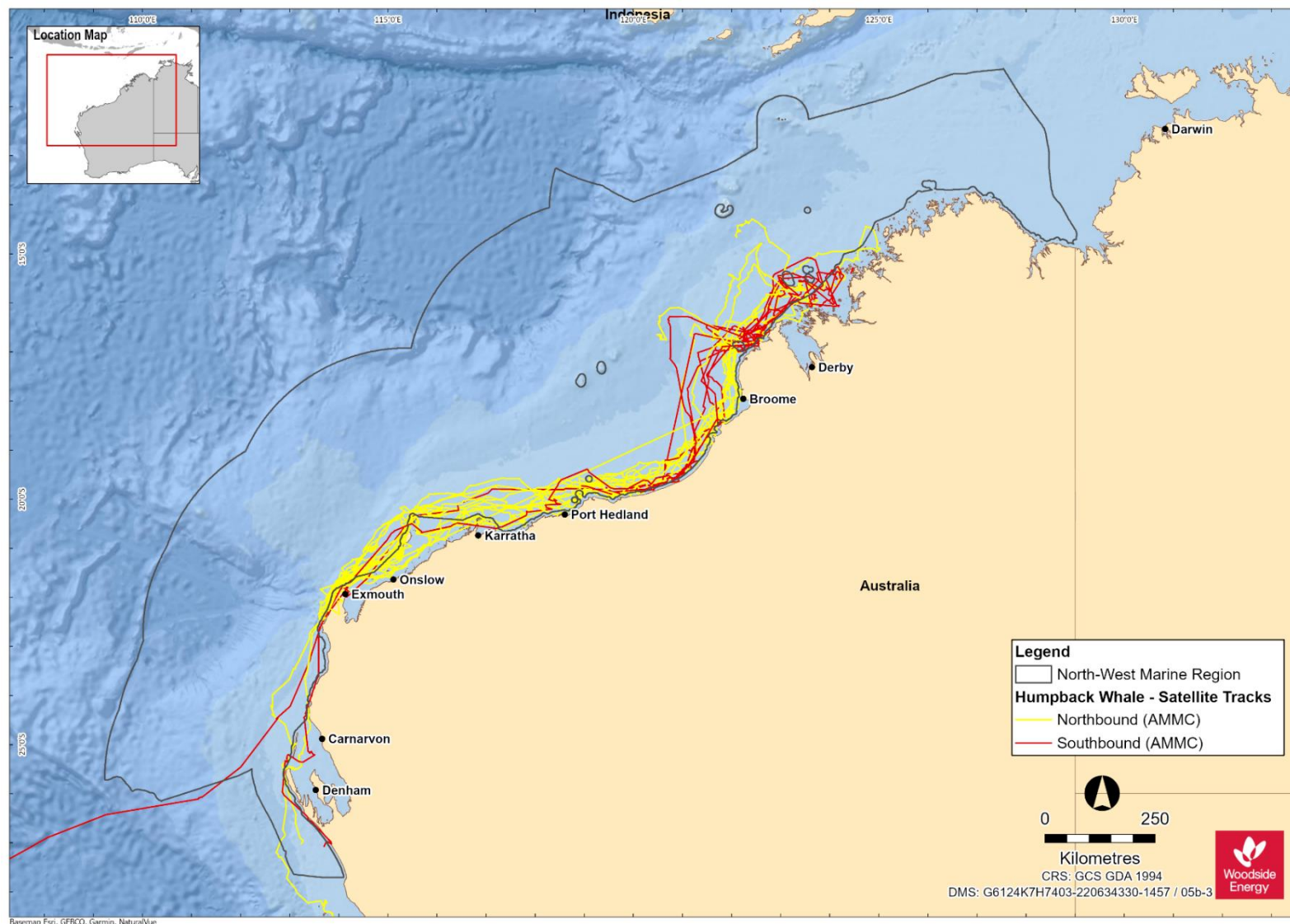


Figure 7-3: Humpback whale tagged tracks for north and south bound migrations (AMMC as published in Double et al. 2010 and 2012)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

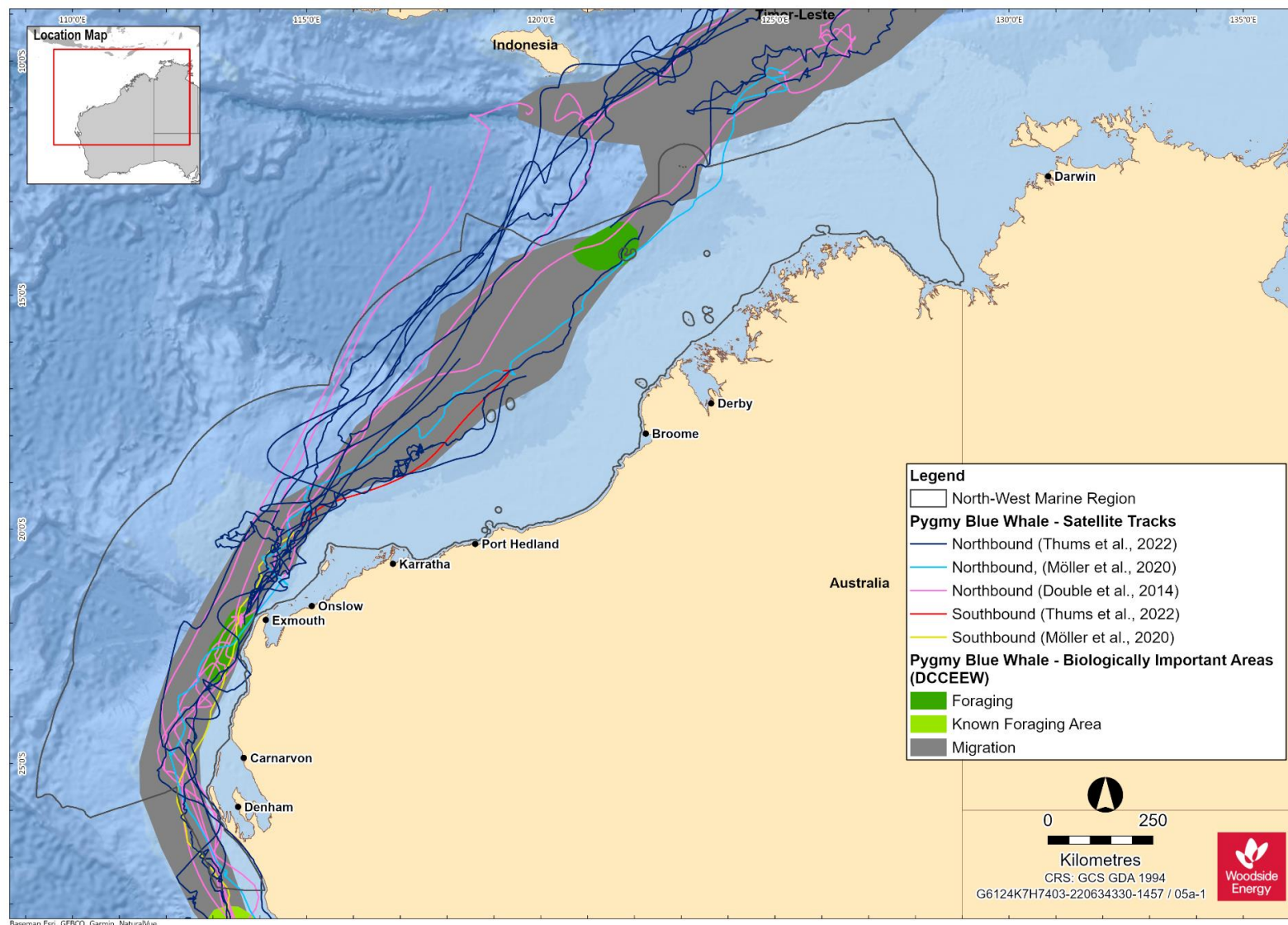


Figure 7-4: Pygmy blue whale BIAs for the NWMR and tagged whale tracks for northbound migration (data source for BIAs: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

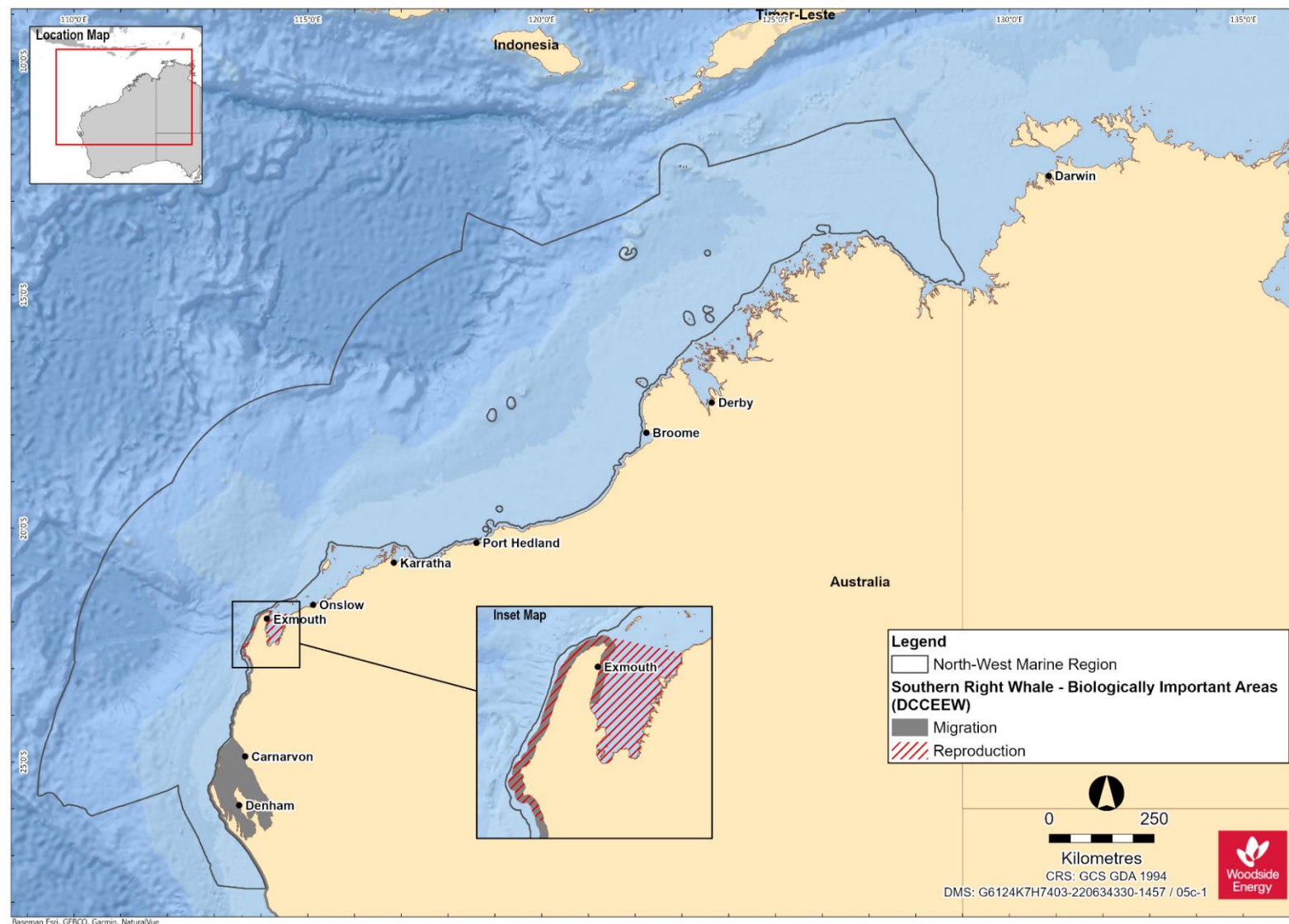


Figure 7-5: Southern right whale BIAs for the NWMR; migration and reproduction BIAs along the coast extend to 3 NM (data source: DCCEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

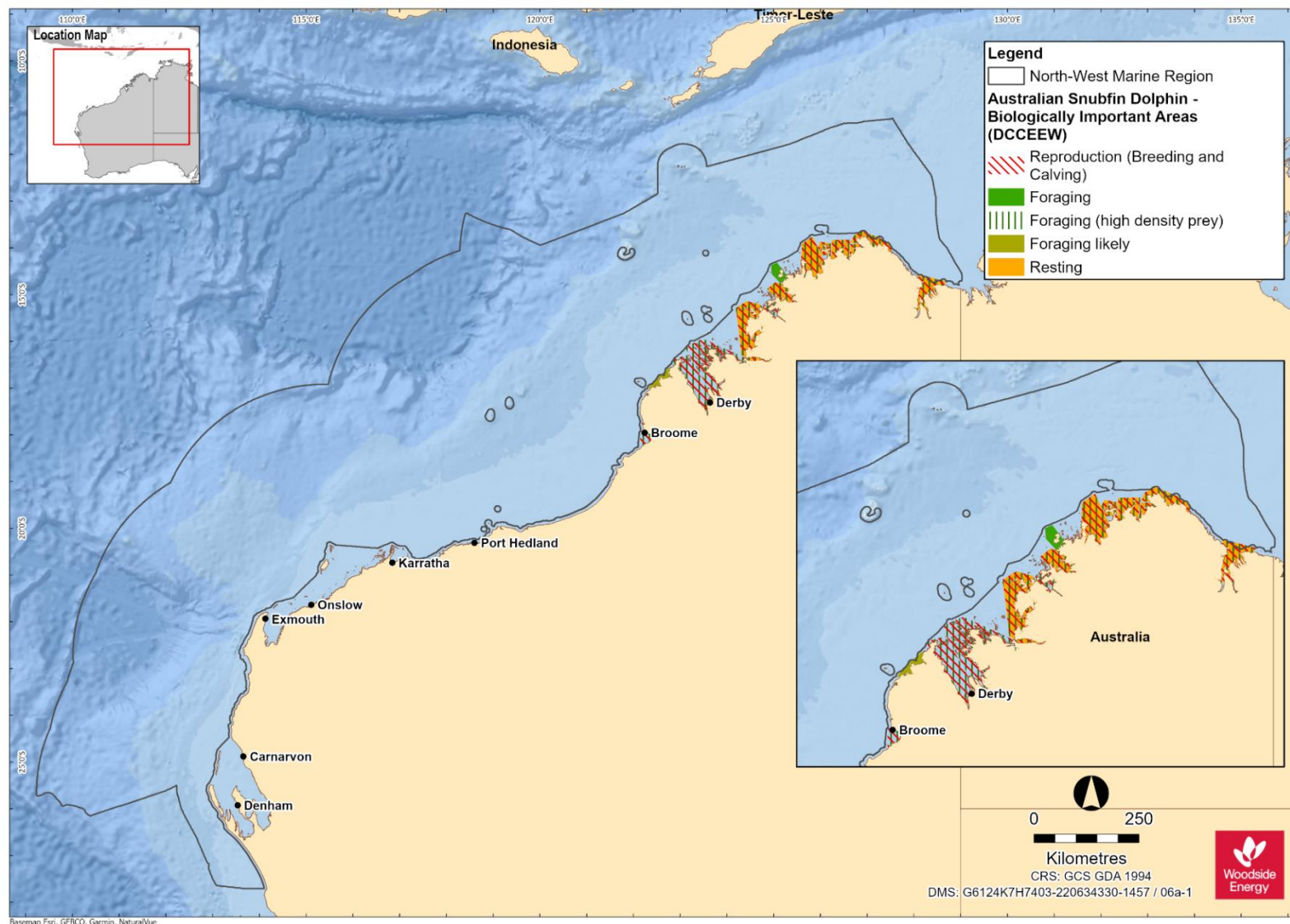


Figure 7-6: Australian snubfin dolphin BIAs for the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

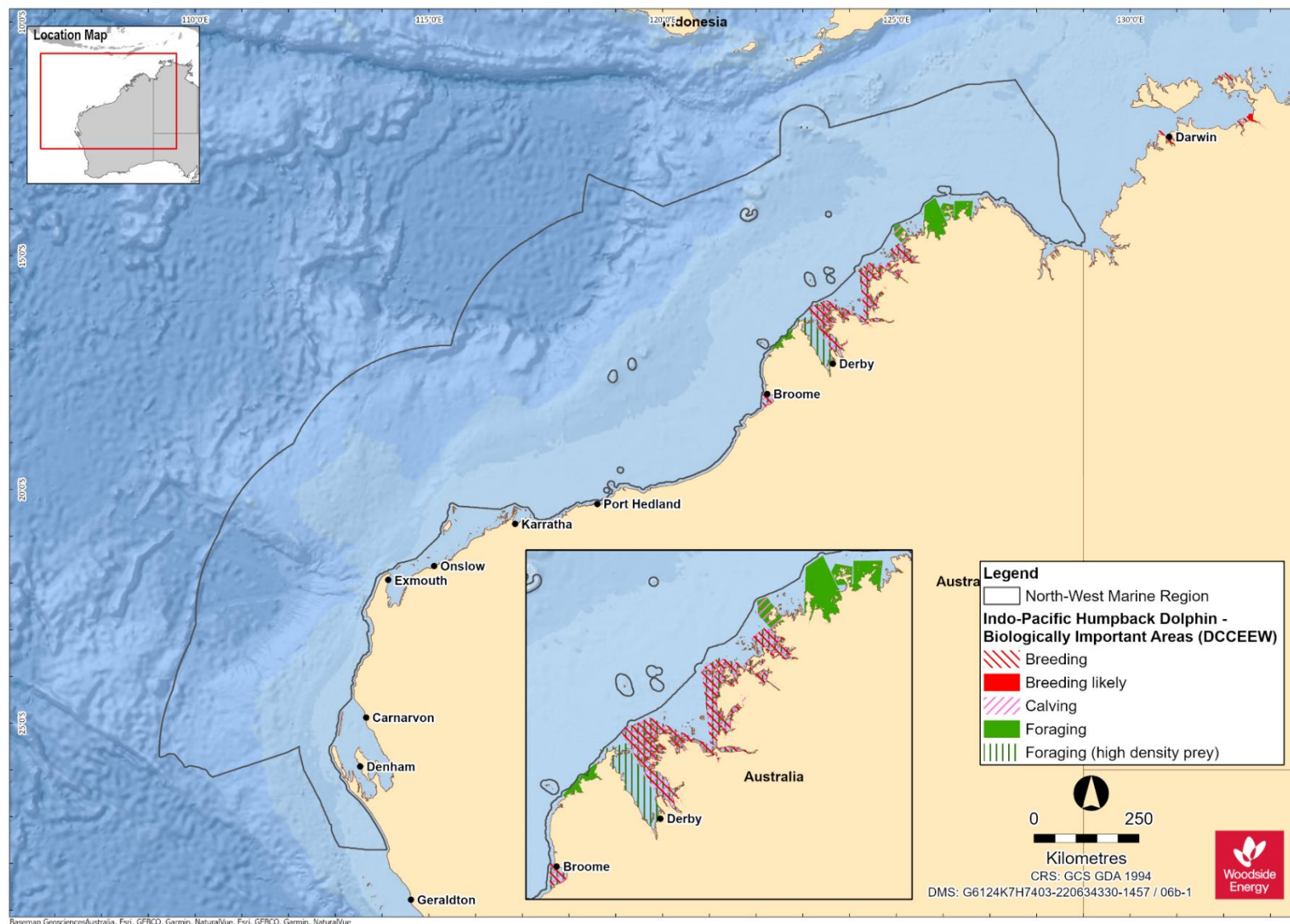


Figure 7-7: Indo-Pacific humpback dolphin BIAs for the NWMR (data source: DCCEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

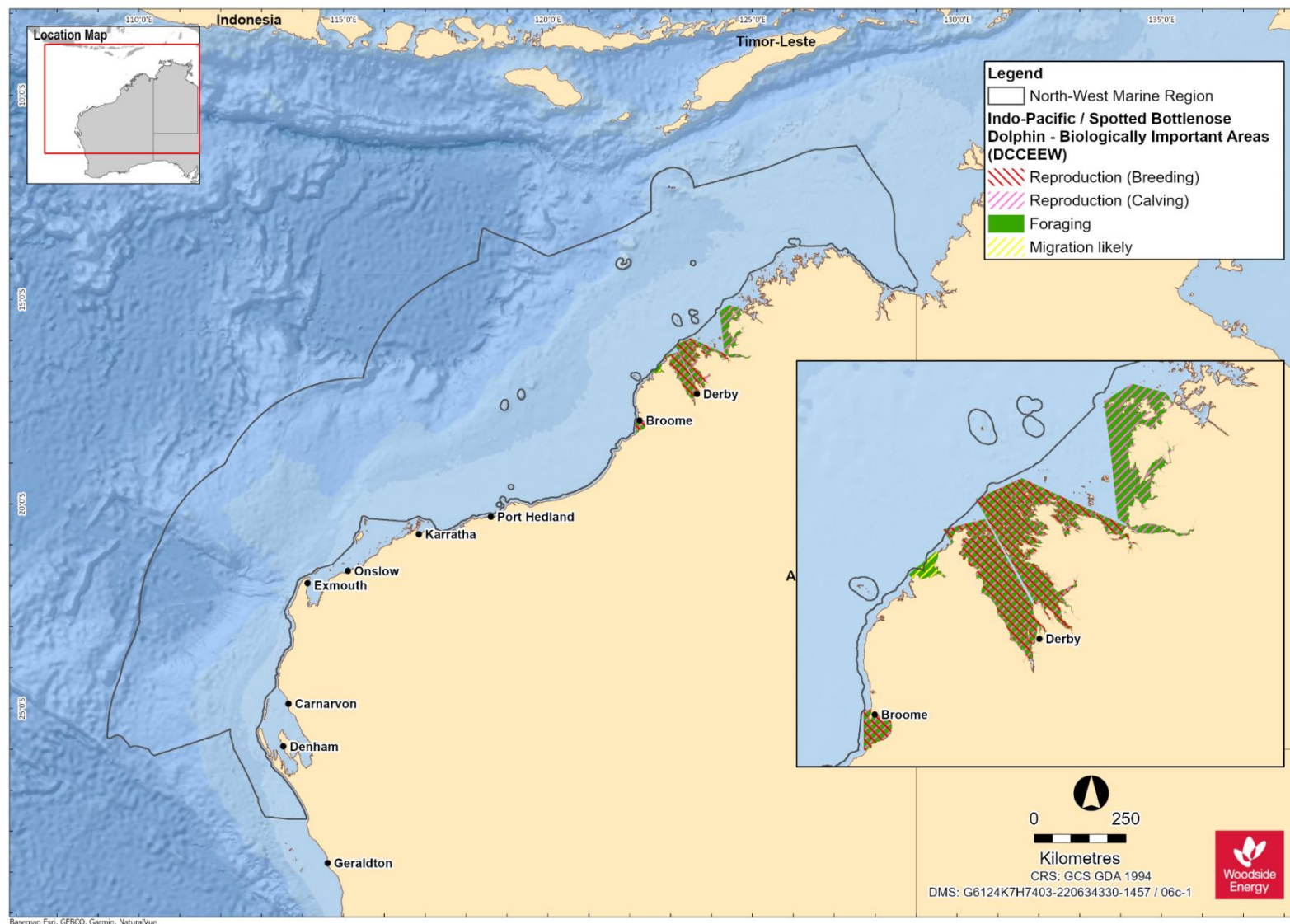


Figure 7-8: Indo-Pacific spotted bottlenose dolphin BIA for the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

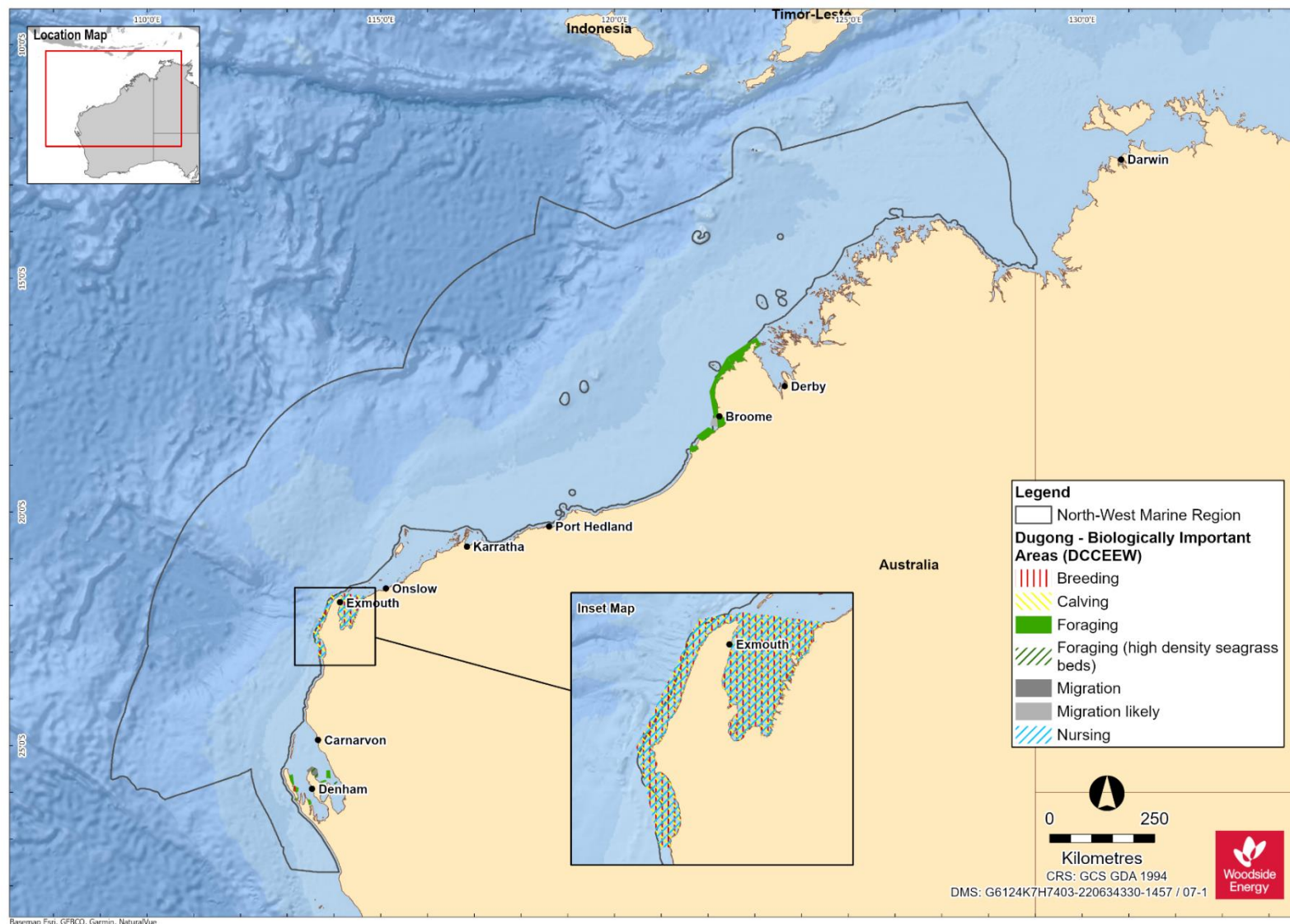


Figure 7-9: Dugong BIAs for the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

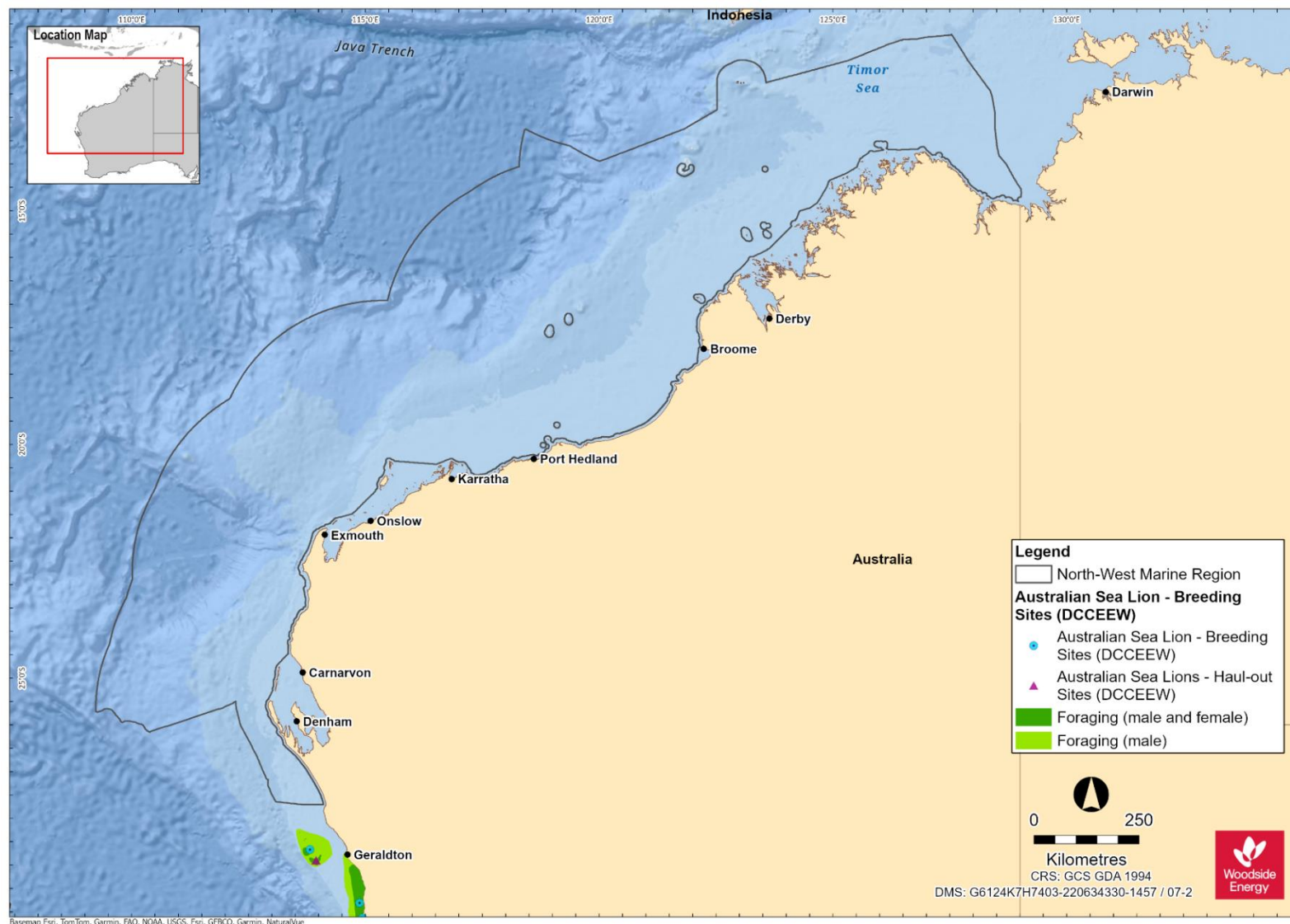


Figure 7-10: Australian sea lion BIAs in the northern extent of the SWMR closest to the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

7.8 Marine Mammal Summary for the NWMR

7.8.1 Browse

The Browse activity area includes biologically important habitat for six threatened and/or migratory marine mammal species:

- blue whale and pygmy blue whale (foraging and migration areas)
- humpback whale (breeding, calving and migration areas)
- Indo-Pacific humpback dolphin (foraging, breeding and calving areas)
- Australian snubfin dolphin (foraging, breeding and calving areas)
- spotted bottlenose dolphin (foraging, breeding and calving areas)
- dugong (foraging).

BIAs for the marine mammal species are outlined in Table 7-3.

7.8.2 North West Shelf / Scarborough

The NWS / Scarborough activity area includes biologically important habitat for six threatened and/or migratory marine mammal species:

- blue whale and pygmy blue whale (foraging and migration areas)
- humpback whale (resting and migration areas)
- Indo-Pacific humpback dolphin (foraging, breeding and calving areas)
- Australian snubfin dolphin (foraging, breeding and calving areas)
- spotted bottlenose dolphin (present but no BIAs)
- dugong (foraging and calving areas).

BIAs for the marine mammal species are outlined in Table 7-3.

7.8.3 North-west Cape

The North-west Cape activity area includes biologically important habitat for four threatened and/or migratory marine mammal species:

- blue whale and pygmy blue whale (foraging and migration areas)
- southern right whale (reproduction area)
- humpback whale (resting and migration areas)
- spotted bottlenose dolphin (present but no BIAs)
- dugong (foraging and breeding/ calving areas).

BIAs for the marine mammal species are outlined in Table 7-3.

8. SEABIRDS AND MIGRATORY SHOREBIRDS OF THE NWMR

8.1 Regional Context

The NWMR supports high numbers and species diversity of seabirds and migratory shorebirds including many that are EPBC Act listed, threatened and migratory. The NWMR marine bioregional plan reported 34 seabird species (listed as threatened, migratory and/or marine) that are known to occur, and 30 of 37 species of migratory shorebird species that regularly occur in Australia, are recorded at Ashmore Reef in the NWMR (DSEWPAC, 2012d). The NWMR marine bioregional plan also noted that Roebuck Bay and Eighty Mile Beach are internationally significant and recognised migratory shorebird locations.

A 'Seabird and Shorebird Existing Knowledge and Threats' report was prepared (2022) and updated in 2024 (Worley, 2024) to identify key bird species (categorised: pelagic seabirds, nearshore seabirds, shorebirds and others) and their threats in the NWMR (Advisian, 2024). The high and moderate occurrence species for the NWMR were informed from this report, as well as from PMST results. The report identified 92 species.

Each species was assigned to one of three frequency of occurrence levels:

- high – breeding and foraging aggregations known to occur
- moderate – known or likely presence
- low – may occur, or at limits of species range.

Table 8-1 includes those considered key species, i.e. high or moderate occurrence (Worley, 2024), and listed threatened and/or migratory under the EPBC Act with a total of 56 key species identified (comprising 22 seabirds and 34 shorebirds).

Many migratory seabirds and shorebirds are protected through bilateral agreements between Australia and Japan (JAMBA), China (CAMBA) and the Republic of Korea (ROKAMBA), recognising the migratory route and important stopover and resting habitats of the East Asian-Australasian Flyway (EAAF). Important migratory bird habitats are also recognised as part of protected wetlands of international significance under the Ramsar Convention. Important Bird Areas (IBAs) for the NWMR, which are also recognised as global Key Biodiversity Areas (KBAs) (BirdLife Australia¹⁷), include:

- Roebuck Bay KBA (and Ramsar site): internationally significant migratory shorebird species
- Mandora Marsh and Anna Plains KBA (adjacent to Eighty Mile Beach, Ramsar site): internationally significant migratory shorebird species
- Dampier Saltworks KBA: internationally significant migratory shorebird species
- Montebello Islands KBA: shorebird and seabird species
- Barrow Island KBA: shorebird and seabird species
- Exmouth Gulf Mangroves KBA: internationally significant migratory shorebird species.

Table 8-1 presents a list of the high and moderate occurrence threatened and migratory seabird and shorebird species (as per subject matter expert review, Worley (2024)) that occur within the NWMR, with their conservation/protected status, relevant recovery plans and/or conservation advice.

¹⁷ [https://www.birdlife.org.au/projects/KBA#:~:text=The%20Key%20Biodiversity%20Areas%20\(KBAs,of%20advocacy%20for%20protected%20areas.](https://www.birdlife.org.au/projects/KBA#:~:text=The%20Key%20Biodiversity%20Areas%20(KBAs,of%20advocacy%20for%20protected%20areas.) [Accessed April, 2021]

Table 8-1: High and moderate occurrence seabird and migratory shorebird species (threatened/migratory/marine) identified by the EPBC Act PMST and NWMR Seabird and Shorebird Existing Knowledge and Threats report as potentially occurring within the NWMR

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report in Appendix A)			Biodiversity Conservation Act 2016 (WA) ¹⁸	IUCN Red List of Threatened Species (non-statutory) ¹⁹	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
Seabirds							
<i>Diomedea amsterdamensis</i>	Amsterdam Albatross	Endangered	Migratory	Marine	Critically Endangered	Endangered	National Recovery Plan for albatrosses and petrels (DCCEEW, 2022)
<i>Sternula nereis nereis</i>	Australian fairy tern	Vulnerable	N/A	N/A	Vulnerable	Vulnerable	National Recovery Plan for the Australian Fairy Tern <i>Sternula nereis nereis</i> (Commonwealth of Australia, 2020b) EPBC Act Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia’s coasts and oceans (DoEE, 2018)
<i>Anous tenuirostris melanops</i>	Australian lesser noddy	Vulnerable	N/A	Marine	Endangered	Least Concern	Conservation Advice <i>Anous tenuirostris melanops</i> Australian lesser noddy (Threatened Species Scientific Committee, 2015e) EPBC Act Threat Abatement Plan to reduce the impacts of exotic rodents on biodiversity on Australian offshore islands of less than 100,000 hectares (DEWHA, 2009)
<i>Pterodroma mollis</i>	Soft-plumaged petrel	Vulnerable	N/A	Marine	N/A	Least Concern	Conservation Advice <i>Pterodroma mollis</i> soft-plumaged petrel (Threatened Species Scientific Committee, 2015f)
<i>Sula leucogaster</i>	Brown booby	N/A	Migratory	Marine	Migratory	Least Concern	EPBC Act Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia’s coasts and oceans (DoEE, 2018)
<i>Ardenna pacifica</i>	Wedge-tailed shearwater	N/A	Migratory	Marine	Migratory	Least Concern	

¹⁸ Threatened and Priority Fauna List – April 2024 - <https://www.dbca.wa.gov.au/management/threatened-species-and-communities> (accessed on 13/08/2024)¹⁹ IUCN, 2024. The IUCN Red List of Threatened Species. Version 2024-1. <https://www.iucnredlist.org> (accessed on 13/08/2024)

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report in Appendix A)			Biodiversity Conservation Act 2016 (WA) ¹⁸	IUCN Red List of Threatened Species (non-statutory) ¹⁹	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
<i>Ardenna carneipes</i>	Flesh-footed shearwater	N/A	Migratory	Marine	Vulnerable	Near Threatened	
<i>Oceanites oceanicus</i>	Wilson's storm petrel	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Anous stolidus</i>	Common noddy	N/A	Migratory	Marine	Migratory	Least Concern	EPBC Act Threat Abatement Plan for predation by feral cats (DoE, 2015c)
<i>Fregata ariel</i>	Lesser frigatebird	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Fregata minor</i>	Great frigatebird	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Sula sula</i>	Red-footed booby	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Phaethon rubricauda</i>	Red-tailed tropicbird	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Onychoprion anaethetus</i> (listed as <i>Sterna anaethetus</i>)	Bridled tern	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Thalasseus bergii</i>	Greater crested tern	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Sternula albifrons</i>	Little tern	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Sterna dougallii</i>	Roseate tern	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Sterna hirundo</i>	Common tern	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Hydroprogne caspia</i>	Caspian tern	N/A	Migratory	Marine	Migratory	Least Concern	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report in Appendix A)			Biodiversity Conservation Act 2016 (WA) ¹⁸	IUCN Red List of Threatened Species (non-statutory) ¹⁹	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
<i>Calonectris leucomelas</i>	Streaked shearwater	N/A	Migratory	Marine	Migratory	Near Threatened	
<i>Sula dactylatra</i>	Masked booby	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Phaethon lepturus</i>	White-tailed tropicbird	N/A	Migratory	Marine	Migratory	Least Concern	
All seabird species							Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2020a) National Light Pollution Guidelines for Wildlife (DCCEEW, 2023d)
Migratory shorebirds							
<i>Numenius madagascariensis</i>	Eastern curlew, far eastern curlew	Critically Endangered	Migratory	Marine	Critically Endangered	Endangered	Conservation Advice <i>Numenius madagascariensis</i> Far eastern curlew (DCCEW, 2023e)
<i>Calidris ferruginea</i>	Curlew sandpiper	Critically Endangered	Migratory	Marine	Critically Endangered	Near Threatened	Conservation Advice <i>Calidris ferruginea</i> Curlew sandpiper (DCCEEW, 2023f)
<i>Limosa lapponica menzbieri</i>	Bar-tailed godwit (menzbieri)	Endangered	Migratory	Marine	Critically Endangered	Near Threatened	Conservation Advice <i>Limosa lapponica menzbieri</i> Bar-tailed godwit (northern Siberia) (DCCEEW, 2024e)
<i>Charadrius mongolus</i>	Lesser sand plover	Endangered	Migratory	Marine	Endangered	Endangered	Conservation Advice <i>Charadrius mongolus</i> Lesser sand plover (Threatened Species Scientific Committee, 2016)
<i>Rostratula australis</i>	Australian painted snipe	Endangered	N/A	Marine	Endangered	Endangered	Conservation Advice <i>Rostratula australis</i> Australian painted snipe (Threatened Species Scientific Committee, 2013a)
<i>Calidris canutus</i>	Red knot	Vulnerable	Migratory	Marine	Endangered	Near Threatened	Conservation Advice <i>Calidris canutus</i> Red knot (DCCEEW, 2024f)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report in Appendix A)			Biodiversity Conservation Act 2016 (WA) ¹⁸	IUCN Red List of Threatened Species (non-statutory) ¹⁹	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
<i>Calidris tenuirostris</i>	Great knot	Vulnerable	Migratory	Marine	Critically Endangered	Endangered	Conservation Advice <i>Calidris tenuirostris</i> Great knot (DCCEEW, 2024g)
<i>Charadrius leschenaultii</i>	Greater sand plover	Vulnerable	Migratory	Marine	Vulnerable	Least Concern	Conservation Advice <i>Charadrius leschenaultii</i> Greater sand plover (DCCEEW, 2023g)
<i>Limosa limosa</i>	Black-tailed godwit	Endangered	Migratory	Marine	Migratory	Near Threatened	Conservation Advice for <i>Limosa limosa</i> black-tailed godwit (DCCEEW, 2024h)
<i>Limnodromus semipalmatus</i>	Asian dowitcher	Vulnerable	Migratory	Marine	Migratory	Near Threatened	Conservation Advice for <i>Limnodromus semipalmatus</i> Asian dowitcher (DCCEEW, 2024j)
<i>Tringa nebularia</i>	Common greenshank	Endangered	Migratory	Marine	Migratory	Least Concern	Conservation Advice for <i>Tringa nebularia</i> Common greenshank (DCCEEW, 2024i)
<i>Arenaria interpres</i>	Ruddy turnstone	Vulnerable	Migratory	Marine	Migratory	Least Concern	Conservation Advice for <i>Arenaria interpres</i> Ruddy turnstone (DCCEEW, 2024k)
<i>Calidris acuminata</i>	Sharp-tailed sandpiper	Vulnerable	Migratory	Marine	Migratory	Vulnerable	Conservation Advice for <i>Calidris acuminata</i> Sharp-tailed sandpiper (DCCEEW, 2024l)
<i>Xenus cinereus</i>	Terek sandpiper	Vulnerable	Migratory	Marine	Migratory	Least Concern	Conservation Advice for <i>Xenus cinereus</i> Terek sandpiper (DCCEEW, 2024m)
<i>Pluvialis squatarola</i>	Grey plover	Vulnerable	Migratory	Marine	Migratory	Least Concern	Conservation Advice for <i>Pluvialis squatarola</i> Grey plover (DCCEEW, 2024n)
<i>Pluvialis fulva</i>	Pacific golden plover	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Tringa totanus</i>	Common redshank	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Actitis hypoleucos</i>	Common sandpiper	N/A	Migratory	Marine	Migratory	Least Concern	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report in Appendix A)			Biodiversity Conservation Act 2016 (WA) ¹⁸	IUCN Red List of Threatened Species (non-statutory) ¹⁹	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
<i>Tringa stagnatilis</i>	Marsh sandpiper	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Calidris melanotos</i>	Pectoral sandpiper	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Tringa glareola</i>	Wood sandpiper	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Limicola falcinellus</i>	Broad billed sand piper	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Limosa lapponica</i>	Bar-tailed godwit	N/A	Migratory	Marine	Migratory	Near Threatened	
<i>Calidris ruficollis</i>	Red-necked stint	N/A	Migratory	Marine	Migratory	Near Threatened	
<i>Calidris pugnax</i>	Ruff	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Xenus cinereus</i>	Terek sandpiper	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Numenius phaeopus</i>	Whimbrel	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Numenius minutus</i>	Little curlew	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Calidris alba</i>	Sanderling	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Calidris subminuta</i>	Long-toed stint	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Gallinago stenura</i>	Pin-tailed snipe	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Gallinago megala</i>	Swinhoe's snipe	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Glareola maldivarum</i>	Oriental pratincole	N/A	Migratory	Marine	Migratory	Least Concern	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species Name	Common Name	Environment Protection and Biodiversity Conservation Act 1999 (Cth) (as per PMST report in Appendix A)			Biodiversity Conservation Act 2016 (WA) ¹⁸	IUCN Red List of Threatened Species (non-statutory) ¹⁹	EPBC Act Part 13 Statutory Instrument
		Threatened Status	Migratory Status	Listed	Conservation Status	Global Status	
<i>Charadrius veredus</i>	Oriental plover	N/A	Migratory	Marine	Migratory	Least Concern	
<i>Tringa brevipes</i>	Grey-tailed tattler	N/A	Migratory	Marine	Migratory and Priority species	Near Threatened	
All migratory shorebird species							Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia, 2015c) EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing, and mitigating impacts on EPBC Act listed migratory shorebird species (DoEE, 2017) National Light Pollution Guidelines for Wildlife (DCCEEW, 2023)
Other marine birds							
<i>Apus pacificus</i>	Fork-tailed swift		Migratory	Marine	N/A	Least Concern	None
<i>Pandion haliaetus</i>	Osprey		Migratory	Marine	N/A	Least Concern	None

8.2 Seabirds in the NWMR

Seabirds are birds that are adapted to life within the marine environment (oceanic and coastal) and are generally long-lived, have delayed breeding and have fewer young than other bird species (Commonwealth of Australia, 2020a).

At least 22 key seabird species (high and moderate occurrence, listed as threatened and/ or migratory under the EPBC Act) are known to occur in the NWMR. These include a variety of species of terns, noddies, petrels, shearwaters, frigatebirds, and boobies.

Seabird species can be grouped into pelagic and nearshore seabirds, based on lifecycle behaviour, distributions and key habitats (Worley, 2024). Pelagic species spend most of their life at sea, ranging over large distances to forage. These pelagic species only come onshore to breed and raise chicks at natal or high-fidelity breeding colonies on remote, offshore island locations in and adjacent to the NWMR. Many species are ecologically significant to the NWMR, as they are endemic to the region, can be present in large numbers in breeding seasons and non-breeding seasons, and many exhibit extensive annual migrations that include marine areas outside the Australian EEZ (DSEWPAC, 2012d). Nearshore seabirds are confined to nearshore areas (unless migrating), have shorter foraging trips during breeding and may rest on land/shoreline habitats outside of breeding periods (Worley, 2024).

The presence of seabirds within the NWMR is influenced by seabird species that migrate and forage in the area during the non-breeding season and this includes many seabird species that breed on the Houtman Abrolhos in the SWMR. Pelagic seabirds have been documented foraging at current boundaries and seasonal upwellings within the NWMR (refer to Sutton et al., 2019). The Houtman Abrolhos Islands National Park located in the SWMR is one of the most significant seabird breeding locations in the eastern Indian Ocean. 16 species of seabirds breed there. 80% of common (brown) noddies, 40% of sooty terns and all the lesser noddies found in Australia nest at the Houtman Abrolhos (Surman, 2019). Important seabird areas in the NWMR are as identified by the KBAs (refer to Section 8.1), EPBC Act Bioregional Biologically Important Areas and subject matter expert review, as presented in Worley (2024).

8.2.1 High-occurrence Key Seabird Species

Species descriptions for high occurrence key seabird species are provided below. High occurrence seabird species were defined as those with breeding and foraging aggregations within NWMR (Worley, 2024).

8.2.1.1 Wedge-tailed Shearwater (Pelagic Seabird)

The wedge-tailed shearwater (*Ardenna pacifica*) is listed migratory under the EPBC Act and Biodiversity Conservation Act 2016 (WA) (BC Act). It is a pelagic, marine seabird known from tropical and subtropical waters. Its distribution is widespread across the Indian and Pacific oceans with a global population of 2.6 million pairs. Of this, approximately one million pairs breed in Australia, most of which do so on islands in Western Australia between Rottnest Island in the south to Ashmore Reef in the north. The largest breeding populations are at the Houtman Abrolhos (600,000 pairs – Surman and Nicholson, 2009), and throughout the NWS region of the NWMR, where large populations on Muiron Islands (300,000 pairs) and Serrurier Island (60,000 pairs) exist (Surman and Nicholson, 2009, 2015).

Adults are absent from their breeding colonies during the interbreeding period and return from their tropical Indian Ocean over-wintering grounds from late-June onwards to re-excavate their burrows. This species is highly synchronous in timing of breeding; all eggs within a colony are laid within a ten-day period. They lay their single egg during early-November, which is then incubated until the chick hatches (after 53 days) in early-January. Once hatched, adults leave the burrows to forage locally during the day returning at night to feed chicks until they are ready to fledge (Nicholson, 2002).

Due to the high synchronicity in egg laying, fledging is restricted to the first two weeks of April (Nicholson, 2002).

Breeding behaviours are nocturnal in wedge-tailed shearwaters. Adults return to and depart the colony at night and fledglings depart the colony at night. In the lead up to fledging, chicks also leave their burrows to exercise their wings outside burrows. Adults may not return to feed chicks each night; wedge-tailed shearwaters breeding on the Muiron Island (north) undertook extensive foraging trips during the incubation period (1200–1400 km) and shorter trips during chick rearing (<300 km, Cannell et al., 2019). Longer foraging trips took individuals in a north-west direction offshore towards oceanic seamounts. Conversely, the shorter tended to include waters to the west and north-west of the Muiron Islands (Cannell et al., 2019). In addition to the Muiron Islands, this dual foraging strategy, whereby parents alternate or mix short and long trips, have been recorded in wedge-tailed shearwaters breeding at Heron Island, Queensland, Lord Howe Island, Tasmania (Peck and Congdon, 2005), and New Caledonia (Weimerskirch et al., 2020). However, divergent foraging strategies have been detected between colonies, which is linked to the proximity of colonies to high productivity waters (Peck and Congdon, 2005; Weimerskirch et al., 2020). While the presence of squid and lanternfish in their diet (Surman and Nicholson, 2009) suggests nocturnal foraging occurs in this species, GPS tracking studies found that foraging activities at sea were more frequent during the day compared with at night (Weimerskirch et al., 2020; Catry et al., 2009). During the day, resting periods on the sea surface were short whereas at night individuals spent a large proportion of their time resting at the surface (Weimerskirch et al., 2020). Other prey species include schooling bait fishes and cephalopods, often feeding in association with other pelagic seabird species such as sooty terns and common noddies, and pelagic fishes such as tunas and mackerels. Diet composition is likely to vary between colonies, depending upon the prey available, and thus determining both the foraging strategy, as described above, and also the division of nocturnal and diurnal foraging. Wedge-tailed shearwaters dive between 3 and 66 m, actively pursuing prey by feeding at the surface or by actively swimming below bait schools.

Post-breeding, wedge-tailed shearwaters breeding on the Houtman Abrolhos Islands and Varanus Island migrated 4500 km north-west to equatorial waters of the Indian Ocean around 90°E (Surman et al., 2018), traversing the NWMR, and those from the Great Barrier Reef migrated to the northern hemisphere, approximately 6000 km northwards to Micronesia (McDuie and Congdon, 2016).

Wedge-tailed shearwaters are observed during breeding across all shelf waters and are the most frequently encountered seabird at sea. Large numbers of wedge-tailed shearwaters have been observed foraging off the NWS between May–August (Surman pers obs.).

Foraging and breeding BIAs are located for the wedge-tailed shearwater across the NWMR (Figure 8-1). It is noted that both breeding and foraging BIAs represent foraging habitat utilised by adult (chick-rearing) wedge-tailed shearwaters during the breeding season.

8.2.1.2 Australian Lesser Noddy (Pelagic Seabird)

The Australian lesser noddy (*Anous tenuirostris melanops*), which is endemic to Australia, is listed vulnerable under the EBPC Act and endangered under the BC Act. The largest breeding colonies are found on the Houtman Abrolhos Islands with fewer records of breeding on Ashmore Reef (Clark et al., 2011; Cannell and Surman, 2021). Possible colonisation of Cocos (Keeling) Island is reported; however, it is unconfirmed if this is the Australian subspecies (Stokes and Hinchey, 1990).

At the Houtman Abrolhos Islands, the breeding population has been estimated at ~50,000 breeding pairs (Surman et al., 2016). At this location, studies indicate that breeding is not highly synchronised; the single egg clutches were laid over a 102-day period from late August to early December, peaking in September (Surman and Wooller, 1995). The incubation period averaged 34 days and the fledging period 40 days. (Surman and Wooller, 1995).

Studies of foraging ecology of breeding Australian lesser noddies at the Houtman Abrolhos Islands found that they are largely diurnal, foraging between 04h00 and 20h40 and returning to their colony

at night (Surman et al., 2017). From this study, the GPS tracks of 17 adults during incubation or chick provisioning revealed that most foraging trips lasted for between two and four hours with a total trip distance of less than 40 km. However, some trips lasted up to 16 hours covering distances of up to 112 km (Surman et al., 2017). During non-breeding, birds appear to remain near the breeding islands year-round (Higgins and Davies, 1996).

Due to differences in climate and seasonality experienced at the Houtman Abrolhos Islands and Ashmore Reef, timing of breeding differs. The Ashmore Reef population has been recorded breeding in the Austral autumn/winter (Clarke and Herrod, 2016), while the Houtman Abrolhos Islands populations breed during the Austral spring/summer (Surman and Wooller, 1995).

No BIAs for the Australian lesser noddy overlap the NWMR and tracking data suggests that individuals breeding at the Houtman Abrolhos Islands foraged predominantly in a south-westerly direction, remaining within waters of the SWMR (Surman et al., 2017). Several individuals were observed roosting with common noddies on Bernier Island, near Carnarvon in 2022 (Nicholson pers obs.). However, it is unlikely that waters of the NWMR provide significant habitat for individuals breeding at the Houtman Abrolhos Islands. The small population of this subspecies breeding on Ashmore Reef may show similar foraging ecology during breeding and remain in the vicinity of the islands, utilising habitats of the NWMR.

8.2.1.3 Brown Booby (Pelagic Seabird)

The brown booby (*Sula leucogaster*) is listed migratory under the EPBC Act and BC Act. It is a cosmopolitan species with a pan-tropical distribution. Within the NWMR, large colonies occur at offshore islands including the Lacepede Islands (17,000 pairs, Mustoe and Edmunds, 2008), Ashmore Reef (5000 pairs at Middle Island and 3000 pairs at East Island in 2007, Swann, 2005a; Swann, 2005b; Swann, 2005c; Milton, 2005; Clarke, 2010), Bedout Island (1000 pairs) and Adele Island (7500 pairs, Burbidge et al., 1987). Small colonies of up to 10 pairs have been recorded at Overhanging Rock, within the Lowendal Islands (Nicholson, pers obs.). The total breeding population in the Australian region in 1996–97 was estimated at 59,940 to 73,900 pairs (WBM Oceanics and Claridge, 1997).

Brown boobies do not migrate far from their breeding islands, rarely dispersing more than 240 km from their natal colony (Dunlop et al., 2001). Brown boobies forage within 50 km of their colony where they plunge dive, reaching up to 15 m depth and pursuing their prey when ascending after the dive (Austin et al., 2021). Brown booby diet is principally medium to large surface schooling prey (northern pilchard, Indian anchovy, flying fish and cephalopods), often associated with feeding tunas and mackerels (Cannell et al. 2022; Austin et al., 2021).

Brown boobies are not prone to waterlogging and will roost on the seas surface and are known to form large aggregations on oil and gas platforms throughout the NWMR (Surman pers obs.), Woodside facilities indicating wider distribution of non-breeding individuals across the NWMR.

Breeding/foraging BIAs for the brown booby in the NWMR are associated with breeding colonies on Ashmore Reef, Adele Island, White Island, Lacepede Islands and Bedout Island (Figure 8-3). Breeding is reported as occurring between January and March, however this becomes protracted through to October at Ashmore Reef (Clarke et al., 2016). Brown Boobies are resident in the NWMR throughout the year, although they may forage long distances over the open ocean (Surman and Nicholson. 2011).

Breeding/foraging BIAs for the brown booby in the NWMR are associated with breeding colonies on Ashmore Reef, Adele Island, White Island, Lacepede Islands and Bedout Island (Figure 8-3).

8.2.1.4 Red-Footed Booby (Pelagic Seabird)

The red-footed booby (*Sula sula*) is listed migratory under the EPBC Act and BC Act. Compared to brown boobies, the red-footed booby occurs in fewer numbers across the NWMR. Within the NWMR they breed at Ashmore Reef (up to 100 pairs, Clarke and Herrod, 2016) and Adele Island (14 pairs,

Bottle et al., 2004). At Ashmore Reef they have been recorded breeding year-round (Clarke and Herrod, 2016).

The red-footed booby is one of the most widely distributed of the boobies across oceanic waters in the tropical Indian Ocean; during non-breeding, individuals have been observed up to 800 km from their natal colony (Dunlop et al., 2001). However, individuals are limited to a range of 150 km from the breeding colony when breeding (Wiemerskirch et al., 2005). In the Ashmore area, adults have been detected up to 125 km from the nearest breeding islands during October (unpubl. data, referenced in Clarke and Herrod, 2016).

Red-footed boobies are diurnal foragers, plunge diving for flying fishes (predominately) across their range (Commonwealth of Australia, 2020a). Breeding/foraging BIAs for the red-footed booby are associated with breeding colonies at Ashmore Reef and Adele Island (Figure 8-3).

8.2.1.5 Masked Booby (Pelagic Seabird)

The masked booby (*Sula dactylatra*) is listed as migratory under the EBPC Act. Within the NWMR, the sub-species *Sula dactylatra bedouti* ranges from the Dampier Archipelago, along the entire coast into the NMR and across to Queensland (Merchant and Higgins, 1990). Individuals have also been recorded at Barrow Island.

Within the NWMR, Bedout and Adele Island represent the main breeding locations with 400 and 320 breeding pairs estimated at each respectively (Marchant and Higgins, 1990; Swann et al., 2002). Breeding is also reported at the Ashmore Reef group with up to 30 breeding pairs recorded on Middle Island and 15 pairs on East Island (Burbidge and Fuller, 1996; Hassell et al., 2003; Swann, 2005a; Swann, 2005b; Swann, 2005c; Milton, 2005; Clarke, 2010; Clarke et al., 2016). Up to two pairs have also been recorded breeding in the Lacapède Group (Hassell et al., 2003).

A recent study of individuals from Bedout Island indicated low genetic exchanges (mitochondrial genes) with other masked booby colonies currently studied, suggesting a dependence on local recruitment for population persistence (Kingsley et al., 2019). Further, the low exchange of mitochondrial genes may reflect high breeding site fidelity and limited foraging distances during the breeding season. Due to the concentration in a relatively small number of areas to breed, any catastrophe at these sites (e.g. oil spills, or disturbance/vandalism of nests) could have a substantial impact on the population (Birds Australia, August 2005).

Studies of foraging behaviour of individuals breeding within the NWMR are lacking, however studies at other locations indicate that foraging is diurnal and ranges vary between 100 and 200 km of the breeding colony (Weimerskirch et al., 2008).

There are no BIAs for this species in the NWMR.

8.2.1.6 Common Noddy (Pelagic Seabird)

The common (or brown) noddy (*Anous stolidus*) is listed as migratory under the EPBC Act and BC Act. The species is widespread in tropical and subtropical areas within and beyond Australia. This seabird species is gregarious and normally occurs in flocks, up to hundreds of individuals, when feeding or roosting.

The Houtman Abrolhos is the primary breeding habitat for the common noddy in the Eastern Indian Ocean, although breeding occurs across offshore islands of the NWMR, albeit in fewer numbers, including Bedout Island, Montebello Islands and Fazer Island (Johnstone et al., 2013), and Ashmore Reef (Clark and Herrod, 2016). Breeding at Ashmore Reef has been recorded as occurring between April and November (Clark and Herrod, 2016).

During breeding, individuals nesting on Lancelin Island in the SWMR were found to forage diurnally (Shephard et al., 2018). Tracked individuals travelled an average of 97 km from the colony with an average trip distance of 141 km, with significantly longer trips during chick rearing compared to incubation (Shephard et al., 2018).

The species is highly pelagic outside breeding (March to August), with breeding individuals of the Houtman Abrolhos Islands travelling ~950 km north to the NWMR (Surman et al., 2017). The species is often reported roosting on unmanned oil and gas platforms within the NWS and Timor Sea (Surman pers comm, 2021).

Although widespread across the NWMR during breeding and non-breeding, no BIAs for this species are located in the NWMR.

8.2.1.7 Bridled Tern (Pelagic Seabird)

The bridled tern (*Onychoprion anaethetus*, listed as *Sterna anaethetus*) is listed migratory under the EPBC Act and BC Act. It is a common summer breeding visitor to the NWMR between September and April, especially around Dampier Archipelago and the Montebello Islands (Johnstone et al., 2013). Breeding has also been reported on the Lowendal Islands (Nicholson, 2002), Passage Islands and islands off Onslow from November–March (Johnstone et al., 2013). Small breeding populations have also been recorded on East Island at Ashmore Reef between April–November and the Lacapède Islands (Clarke and Herrod, 2016; Johnstone and Storr, 1998).

The migration and local movements of breeding birds within the NWMR are poorly defined; two individuals were tracked departing the Houtman Abrolhos islands in April/May, transiting along the continental shelf waters before departing Australian waters and migrating towards the Western Celebes Sea, east of Borneo (Surman et al., 2018). These individuals departed the Western Celebes Sea in August/September returning to the Houtman Abrolhos islands around 14 days later (Surman et al., 2018). This species has been regularly recorded on the continental shelf up to 70 km away from breeding locations during oceanic surveys (Surman and Nicholson, 2011; Dunlop et al., 2001).

Bridled terns feed diurnally on a range of species of fish, crustaceans, cephalopods and insects. In Australia, they feed almost entirely on fish, though they also take crustaceans and aquatic insects. They often feed on schools of fish forced to the surface by other predators (Dunlop, 1997). Bridled Terns forage mainly by contact dipping, with birds hovering or gliding close to the surface of the sea and swooping down and immersing only the head and breast when attacking prey, which are usually taken from the top few centimetres of the sea surface (<20 cm) (Dunlop, 1997).

During breeding at Penguin Island, WA, individuals foraged most commonly between 20 km and 40 km from the nearest breeding colony, though some were observed at distances up to 80 km (Dunlop, 1997). This species has also been recorded within 70 km of their breeding colonies within the NWMR, on outer continental shelf waters (Nicholson, 2002; Dunlop et al., 2001).

Although foraging may be concentrated around breeding colonies during the breeding season, no BIAs in the NWMR have been identified for this species.

8.2.1.8 Frigate Birds (Pelagic Seabirds)

The lesser (*Fregata ariel*) and great frigatebirds (*Fregata minor*) are both listed migratory under the EBPC Act and BC Act. They are the most widely distributed of the frigatebirds, with a pan-tropical distribution.

In the NWMR, the great frigatebird nests at Ashmore Reef and Adele Island. At Ashmore Reef they are found to breed year-round (Clark and Herrod, 2016). In addition to the Ashmore Reef and Adele Island, the lesser frigatebird also nests at Cartier Island, the Lacapède Islands and Bedout Island, which is thought to support more than 1% of the world's breeding population (BirdLife International, 2021). On Ashmore Reef, the species breed in the Austral winter (Clark and Herrod, 2016).

During breeding, great frigatebirds breeding in the South China Sea on average foraged 75 km (maximum 150 km) from their breeding colony and lesser frigatebirds 123 km (maximum 300 km) (Mott et al., 2017).

Outside of breeding, frigatebirds may disperse significant distances from their breeding colonies (Mott et al., 2017). Great frigatebirds are wide ranging, being recorded between 900–1400 km from

their natal colonies (Dunlop et al., 2001). Tracking studies of non-breeding lesser and great frigatebirds roosting on Ashmore Reef and Adele Island demonstrated that individuals have large distributions including Australian coastal waters and in addition to the South China, Java and Sulu Seas and the Gulf of Thailand (Mott et al., 2021). During the wet season in particular, Australian waters provided optimal habitat for non-breeding individuals of both species. (Mott et al., 2021).

Both frigatebirds forage by snatching prey from the surface waters, or when prey break the surface. They also rely heavily upon kleptoparasitism, harrying other seabirds returning to their colonies with food until it is regurgitated. Frigatebirds are susceptible to waterlogging, so do not plunge or splash dive for prey nor do they roost on the seas surface. Across the NWMR they forage on flying fish, cephalopods, anchovies, northern pilchards and other medium sized prey (8–30 cm, Surman pers. obs.).

Breeding/foraging BIAs for the great frigatebird in the NWMR are associated with breeding colonies on Ashmore Reef and Adele Island. For the lesser frigatebird, breeding/foraging BIAs are associated with breeding colonies on Ashmore Reef, Adele Island, White Island, Lacepede Islands and Bedout Island (Figure 8-4).

8.2.1.9 White-tailed Tropicbird (Pelagic Seabird)

The white-tailed tropicbird (*Phaethon lepturus*) is listed migratory under the EBC Act and BC Act. The species breeds across many sites, but in low numbers (Commonwealth of Australia, 2020). In Australia, between 6000 and 12,000 pairs nest on Christmas Island, with smaller fragmented populations at North Keeling Island (40 pairs). These individuals are expected to be members of the Christmas Island white-tailed tropicbird sub species *Phaethon lepturus fulvus*. While individuals of this subspecies can forage at great distances from colonies (see below), the numbers occurring in the NWMR are expected to be low.

In the NWMR, the white-tailed tropicbird is known to nest on Ashmore Reef and the Rowley Shoals, (10 breeding pairs and up to three nesting pairs; Clark, 2010; Burbidge et al., 1996, respectively). Breeding can occur year-round (Clarke and Herrod, 2016).

Pennycuik et al. (1990) demonstrated that the white-tailed tropicbirds breeding in Puerto Rico foraged up to 89 km from the nest site when breeding and moved considerably larger distances when not breeding. Dunlop et al. (2001) observed birds from Christmas Island foraging singly between 1400–1600 km south-east of Christmas Island.

This species regularly roosts on the seas surface, in between bouts of foraging. It is a solitary forager, rarely feeding in association with other seabird species and always in waters favourable for its principal prey, flying fish (Santos et al., 2018). The species is a surface forager that occasionally undertakes shallow dives (Marchant and Higgins, 1990).

There are breeding BIAs associated with nesting occurring at the Rowley Shoals and Ashmore Reef within the NWMR (Figure 8-5).

8.2.1.10 Red-tailed Tropicbird (Pelagic Seabird)

The red-tailed tropic bird is listed as Endangered (since December 2023) under the EPBC Act and 'Priority 4' under the BC Act.

Across the NWMR, the largest population breeds on Christmas Island (1400–2000 pairs, references within Sommerfeld et al., 2015) with additional key breeding locations on Cocos (Keeling) Group and islands of Ashmore Reef Marine Park (17–24 breeding pairs, Clarke et al., 2011; Clarke and Herrod, 2016). At Ashmore Reef, breeding pairs were observed year-round, with no discernible peak in breeding activity (Clarke et al., 2011).

The red-tailed tropicbird is a shallow diving species typically foraging diurnally within the first 4 m of the water column (LeCorre, 1997). There is limited information concerning foraging range when breeding in Australia, but observations at sea in the Ashmore Reef region demonstrate they are

capable of foraging considerable distances from land (unpubl. data, Clarke, 2010). This corroborates data from elsewhere in their global range which reported foraging distances of 240 km during incubation, 109 km during chick rearing and maximum distances of 380 km (Fayat et al., 2023). This species has been observed during boat surveys of the outer shelf of the NWMR year-round (Surman and Nicholson, 2011).

There are no BIAs for this species within the NWMR.

8.2.1.11 Australian Fairy Tern (Nearshore Seabird)

The Australian fairy tern (*Sternula nereis nereis*) is listed vulnerable under the EPBC Act. The WA breeding population (approximately 5000–6000 mature individuals) is dispersed over approximately 2500 km of coastline (Greenwell, 2021). Within Western Australia, the subspecies comprises a sedentary Pilbara population and a partially-migratory population extending from Exmouth to Point Malcolm. Individuals of the partially-migratory population may occasionally migrate into the southern region of the NWMR during the winter months.

Within the NWMR breeding occurs in small colonies between June–September on offshore islands, including Simpson Island, Barrow Island, the Montebello Islands, the Lowendal Islands, Thevenard Island, Serrurier Island, the islands in the Dampier Archipelago, Maryanne Shoals and Egret Island (Dunlop, 2018; Johnstone et al., 2013; Surman pers. obs.). Colonies tend to occupy areas rather than fixed sites, and nest sites can be abandoned after one or more years, even if they have been successful (Saunders and de Rebeira, 1985).

While information regarding foraging ecology of this species within the NWMR is lacking, the Australian fairy tern has been studied in South Australia. Here, species typically forages in inshore waters and has been reported to rarely travel beyond 2 km during the breeding season in South Australia (Paton and Rogers, 2009).

Australian fairy terns are diurnal plunge diving seabirds, feeding exclusively on small (<60 mm) surface schooling bait fishes throughout their range. Prey include species of sprats, hardy heads and larval prey of some demersal fish species. Unlike many other terns, fairy terns are not dependent upon large pelagic fishes to drive their prey to the surface.

Breeding and foraging BIAs are identified for the fairy tern in the NWMR, as presented in Figure 8-2.

8.2.1.12 Little Tern (Nearshore Seabird)

The little tern (*Sternula albigula*) is listed migratory under the EPBC Act and BC Act. There are three sub-populations of little tern in Australia and two of these occurring in the NWMR: the northern Australian breeding subpopulation occurring around Broome and extending across the NWMR to Cape York, and an east Asian breeding subpopulation, with the terns present from Shark Bay to south-eastern Queensland during the Austral summer.

Recent surveys have found that little terns breed across the NWMR in small colonies (Surman pers. obs.). However, identification between subpopulations is difficult, and population estimates have high error due to the overlapping range and remote breeding sites of the northern populations. A southwards movement of breeding distribution has been noted at three key locations; Lowendal Islands (Surman pers comm.), Burrup Peninsula (Nicholson pers comm.), and North-west Cape (Greenwell and Dunlop, 2021). Little terns usually forage close to their breeding colonies, typically within 5 km (Bertolero et al., 2005) mainly on small fish (<10 cm in length), but they also eat crustaceans, insects, annelids and molluscs.

Little is known about the breeding and foraging ecology of little terns, however BIAs for foraging and resting have been identified across the NWMR (Figure 8-2), with a peak in breeding activity between June and October.

8.2.1.13 Roseate Tern (Nearshore Seabird)

The roseate tern (*Sterna dougallii*) is listed migratory under the EPBC Act and BC Act. This species is generally sub-tropical in distribution and there are many breeding populations in the NWMR, including Ashmore Reef, Bonaparte Archipelago, Lacepede Islands, Dampier Archipelago and the Lowendal Islands.

The largest roseate tern breeding colony in Western Australia is in the Houtman Abrolhos Islands (Surman and Nicholson, 2009). Large colonies breed within the Lowendal Island and Montebello Island region where there is a stronghold for this species (Higgins and Davies, 1996). A large breeding colony has also been recorded on Goodwyn Island on the Dampier Archipelago (Higgins and Davies, 1996). Peak breeding times across the NWMR are between May to August.

Birds are known to usually move away from breeding colonies following breeding, but their non-breeding range is not well defined (Higgins and Davies, 1996). Many non-breeding roseate terns have been observed at several remote locations in the Kimberley and there are high numbers also recorded at the Eighty Mile Beach Ramsar site (Surman pers obs).

Roseate terns will forage diurnally, up to 60 km from their colonies and always over deeper shelf waters, rather than shallow coastal areas (Surman and Wooller, 2003). Roseate terns will also readily raft (roost in flocks on the sea surface) after foraging episodes (Commonwealth of Australia, 2020).

Roseate terns predominately eat small pelagic fish taken by plunge diving or surface dipping, typically foraging in dense flocks overflying predatory fishes that push their prey to the surface. Roseate terns may plunge to 20 cm depth.

Breeding BIAs across the NWMR are associated with known breeding colonies on islands, while a resting BIA encompasses Eighty Mile Beach (Figure 8-2).

8.2.1.14 Caspian Tern

The Caspian tern (*Hydroprogne caspia*) is listed migratory under the EPBC Act and BC Act. It is moderately common across coastlines of the NWMR and offshore islands (Johnstone et al., 2013).

Breeding occurs as solitary nests or in colonies of up to 52 breeding pairs mainly on islands, including North Turtle Island, Dampier Archipelago including Enderby Island, and Frazer Island, and occasionally on mainland coasts, such as Cape Preston and the Northwest Cape, from late March to early November (Johnstone et al., 2013).

During breeding, adults can forage up to 60 km from the colony during this period to catch fish and meet their elevated energetic requirements at this time (Burger et al., 1996; Balance et al., 2008). The Caspian tern is a diurnal forager, with the length and frequency of foraging trips, as well as relative time spent foraging or attending chicks, changing with food resource availability (Dunlop and McNeill, 2017).

Caspian tern usually forage in shallow, sheltered waters, by plunge-diving for various prey species (Serventy et al., 1971).

Although foraging BIAs occur in the SWMR, no BIAs for this species have been identified in the NWMR.

8.2.1.15 Greater Crested Tern

The greater crested tern (*Thalasseus bergii*) is listed migratory under the EPBC Act and BC Act. The species is widespread along coastlines of the NWMR and offshore islands (Johnstone et al., 2013).

Many populations remain sedentary in their breeding areas or disperse locally (del Hoyo et al., 1996), although some are more migratory (Urban et al., 1986). The species breeds in large, dense colonies, or in small groups of fewer than ten pairs amidst colonies of other species, such as silver gull (del Hoyo et al., 1996). Colonies are located on islands, including those as far offshore as Bedout,

Legendre and the Montebello and Lowendal Islands (Johnstone et al., 2013). Adult breeders have shown both high site fidelity and also flexibility in their breeding localities depending upon the spatial and temporal reliability of food resources (Crawford et al., 2002).

Breeding occurs from late March to May (Johnstone et al., 2013). During breeding, greater crested terns conduct short, diurnal foraging trips close (<40 km) to the colony (Surman and Wooller, 2003; Rock et al., 2007; McLeay et al., 2010) with most foraging behaviour displayed by individuals at distances >5 km (McLeay et al., 2010).

The chicks are predominantly fed pelagic fish, a diet that varies among colonies and years (Chiaradia et al., 2002; McLeay et al., 2009). Adults may forage more widely on inshore reef fish (Surman and Wooller, 2003), crustaceans and cephalopods using a plunge diving method (Commonwealth of Australia, 2020a).

Although there is known habitat use in the NWMR, there are no designated BIAs for the greater crested tern in the NWMR.

8.2.2 Moderate-occurrence Key Seabird Species

Species descriptions for moderate occurrence key pelagic and nearshore seabird species are summarised in Table 8-2.

Table 8-2: Species summary for moderate occurrence pelagic and nearshore seabird species within the NWMR

Species	NWMR presence	Predominant feeding behaviour	Diet
Amsterdam albatross	Year-round low-density presence associated with foraging breeding and non-breeding individuals	Diurnal and nocturnal Dipping, surface-seizing, diving to depths ≥ 2 m	Squid, fish and crustaceans
Flesh-footed shearwater	Non-breeding, migration: Jun–Aug	Diurnal and nocturnal Pursuit-plunging, surface-seizing	Fish, cephalopods
Soft-plumaged petrel	Non-breeding, migration: Jan–Jun	Diurnal and nocturnal Dipping, surface-seizing	Crustaceans, fish
Streaked shearwater	Non-breeding: Dec–Apr	Diurnal and nocturnal Surface-seizing	Fish, squid, crustacean
Wilson's storm petrel	Non-breeding: Jun–Dec	Diurnal and nocturnal Dipping, surface-seizing	Crustaceans, fish
Common tern	Non-breeding: Aug–Mar	Diurnal Surface-plunging, dipping	Fish

8.2.3 Biologically Important Areas for Seabirds in the NWMR

A review of the Australian Marine Spatial Information System (GA, 2024) identified BIAs representing important life cycle stages and behaviours for nine species of seabird in the NWMR. These are presented in Table 8-3.

Table 8-3: Seabird BIAs within the NWMR (source: AMSIS, 2024 [accessed on 12/08/24])

Seabird Species	Woodside Activity Area			BIAs			
	Browse	NWS/S	NWC	Breeding/Foraging	Foraging	Breeding	Resting
Australia fairy tern	-	✓	✓	-	No foraging BIAs in the NWMR Foraging in high numbers: the BIA is located in the SWMR including the Houtman Abrolhos Islands	Dampier Archipelago, Montebello, Lowendal and Barrow Island Groups, south Ningaloo and Bernier Island of Shark Bay	-
Wedge-tailed shearwater	✓	✓	✓	Widespread area of the NWMR offshore and inshore waters	Foraging in high numbers: the BIA is located in the SWMR including the Houtman Abrolhos Islands	-	-
Great frigatebird	✓	-	-	Ashmore Reef, Adele Island	-	-	-
Lesser frigatebird	✓	✓	-	Off Eighty Mile Beach, Lacepedes, Adele Island, North Kimberley and Ashmore Reef	-	-	-
Brown booby	✓	✓	-	Off Eighty Mile Beach, Lacepedes, Adele Island, North Kimberley and Ashmore Reef	-	-	-
Red-footed booby	✓	-	-	Adele Island, Ashmore Reef	-	-	-
Little tern	✓	✓	-	Rowley Shoals, Adele Island	-	-	-
Roseate tern	✓	✓	✓	-	No foraging BIAs in the NWMR Foraging (provisioning young) and foraging BIAs located in the SWMR – Houtman Abrolhos Islands, the nearest BIA to the NWMR	Dampier Archipelago, Montebello, Lowendal and Barrow Island Groups, south Ningaloo and barrier island of Shark Bay	Eighty Mile Beach
White-tailed tropicbird	✓	✓	-	-	-	Rowley Shoals Ashmore Reef	-

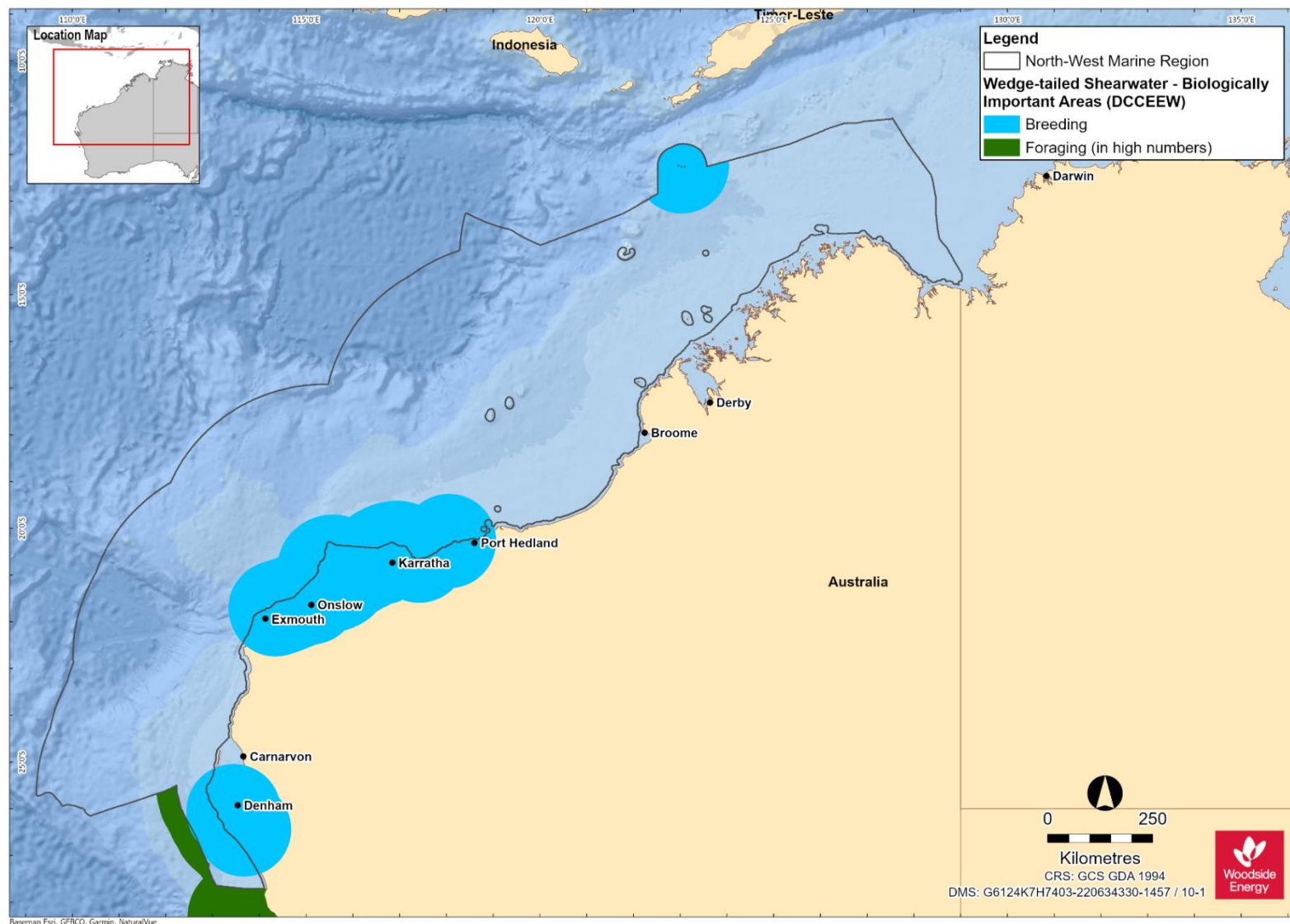


Figure 8-1: Wedge-tailed shearwater BIAs for the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: G2000RH1401743486

Revision: 2

Woodside ID: 1401743486

Page 151 of 373

Uncontrolled when printed. Refer to electronic version for most up to date information.

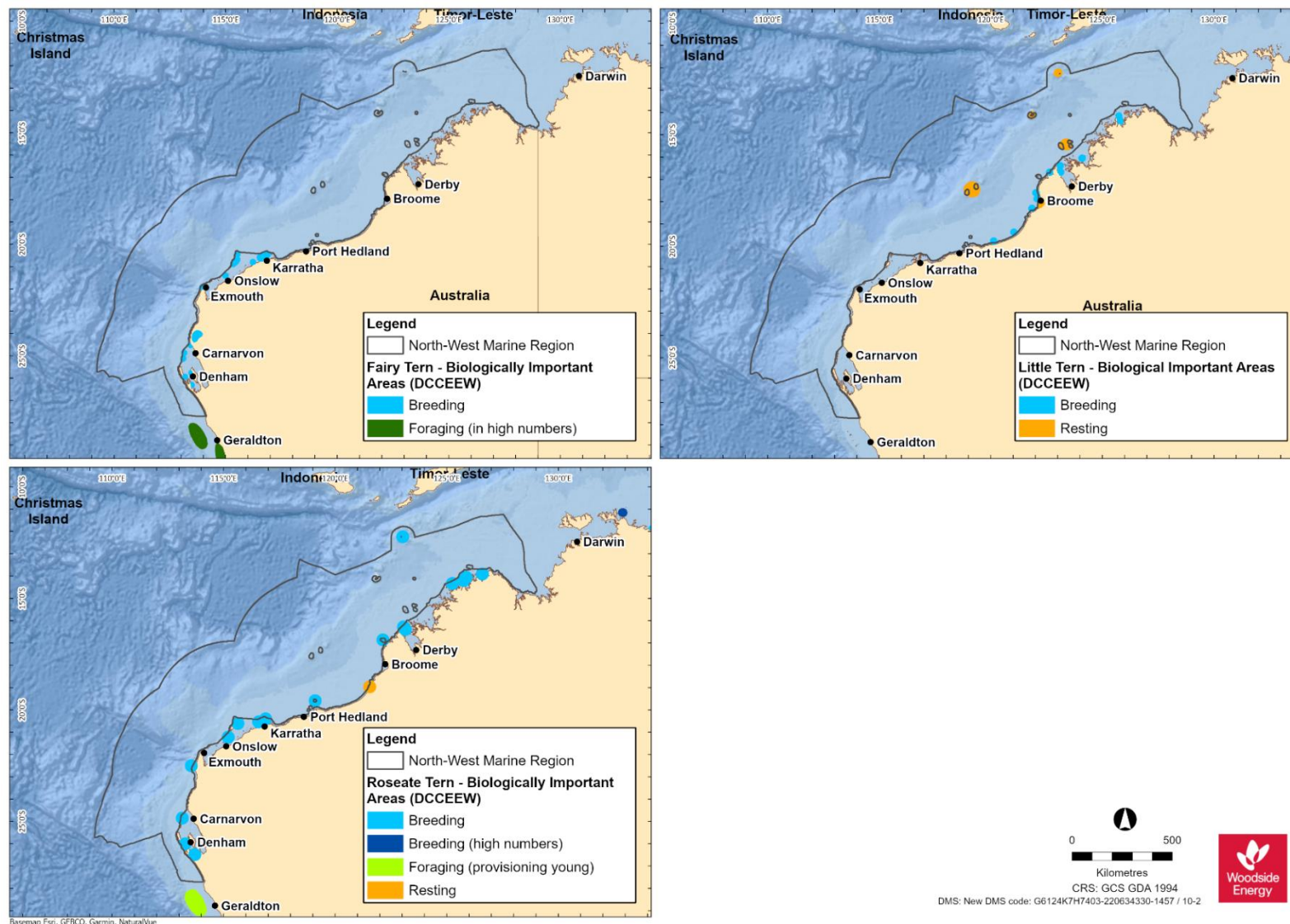


Figure 8-2: Tern species BIAs for the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

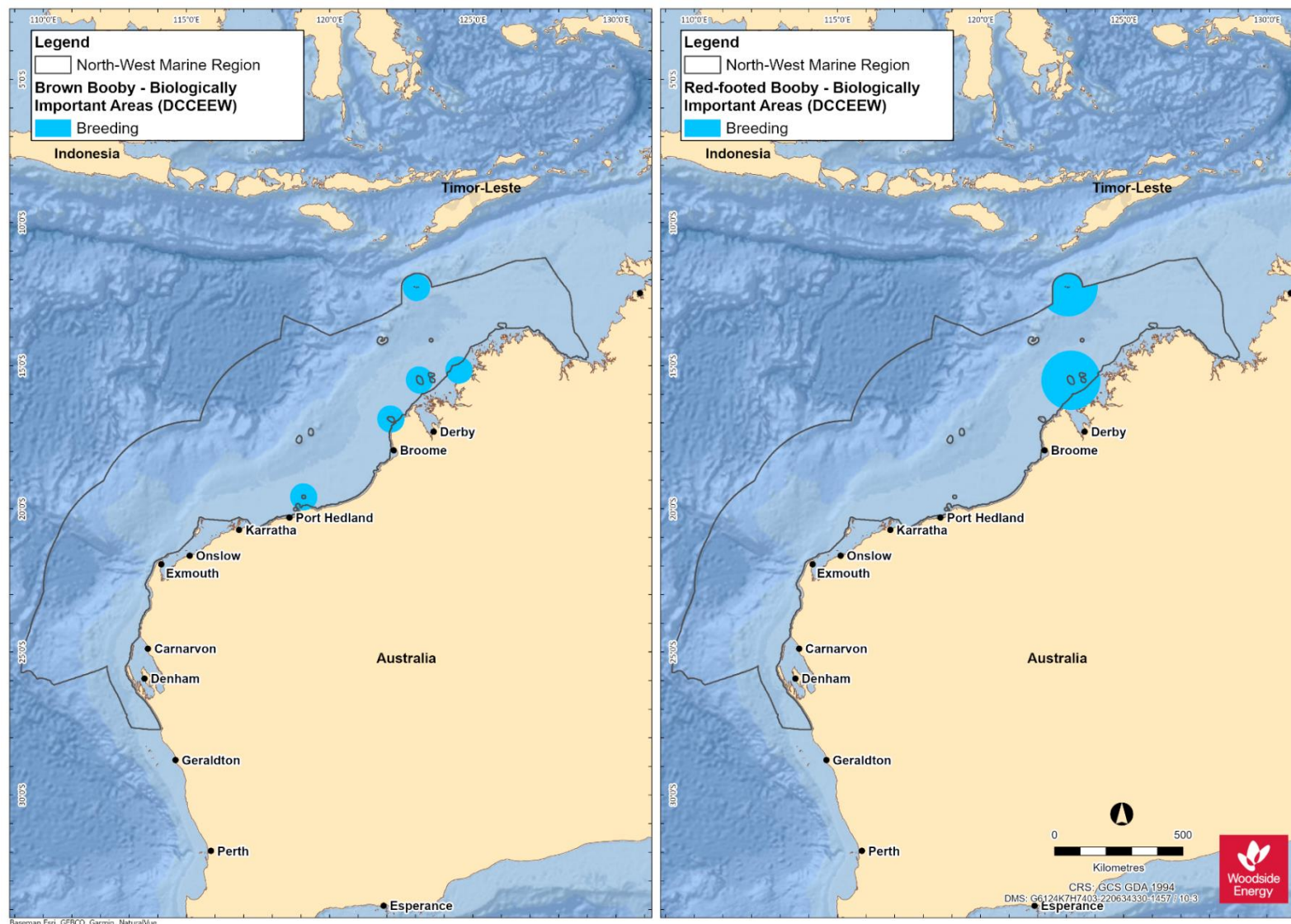


Figure 8-3: Red-footed and brown booby BIAs for the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: G2000RH1401743486

Revision: 2

Woodside ID: 1401743486

Page 153 of 373

Uncontrolled when printed. Refer to electronic version for most up to date information.

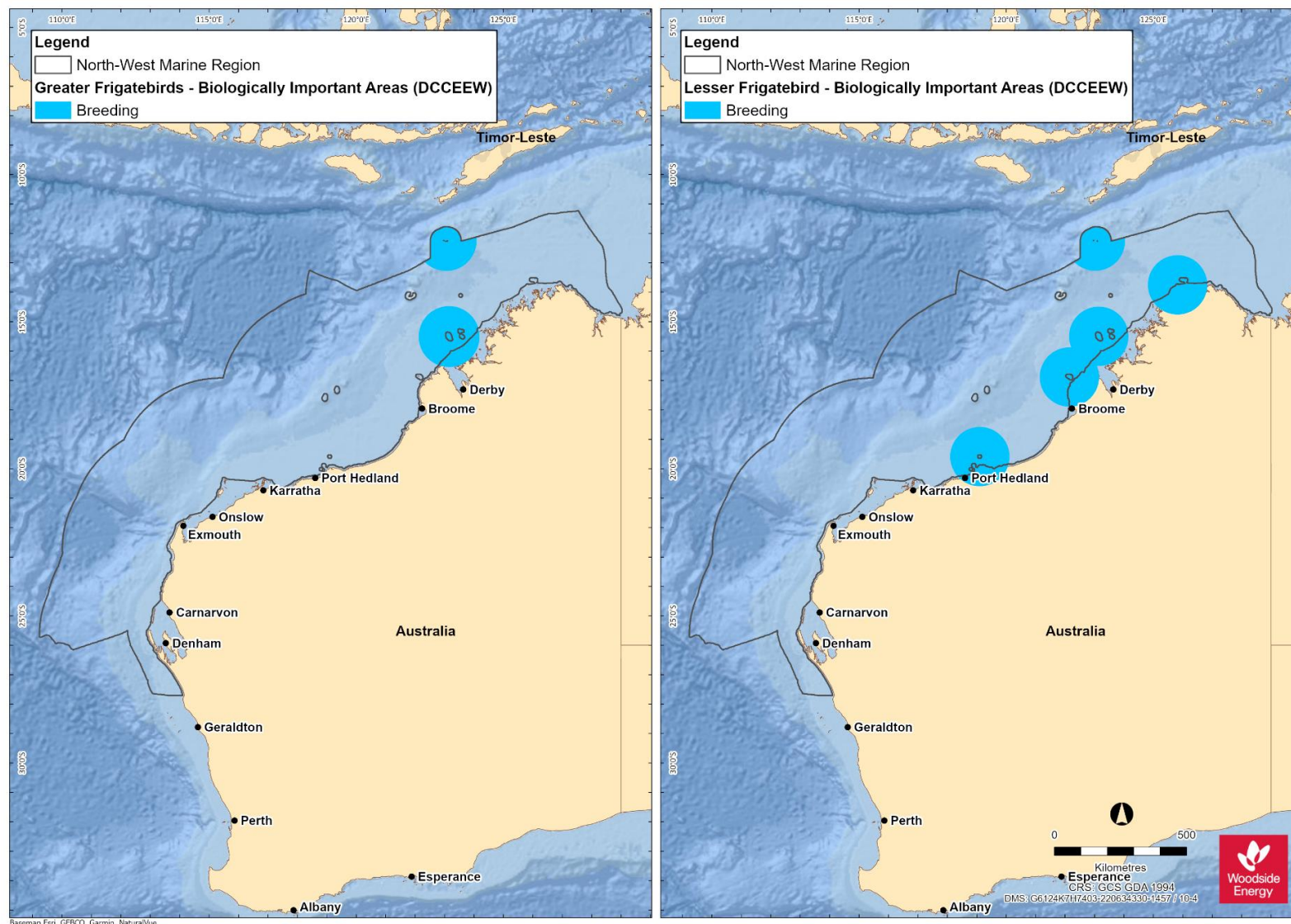


Figure 8-4: Greater and lesser frigatebird BIAs for the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

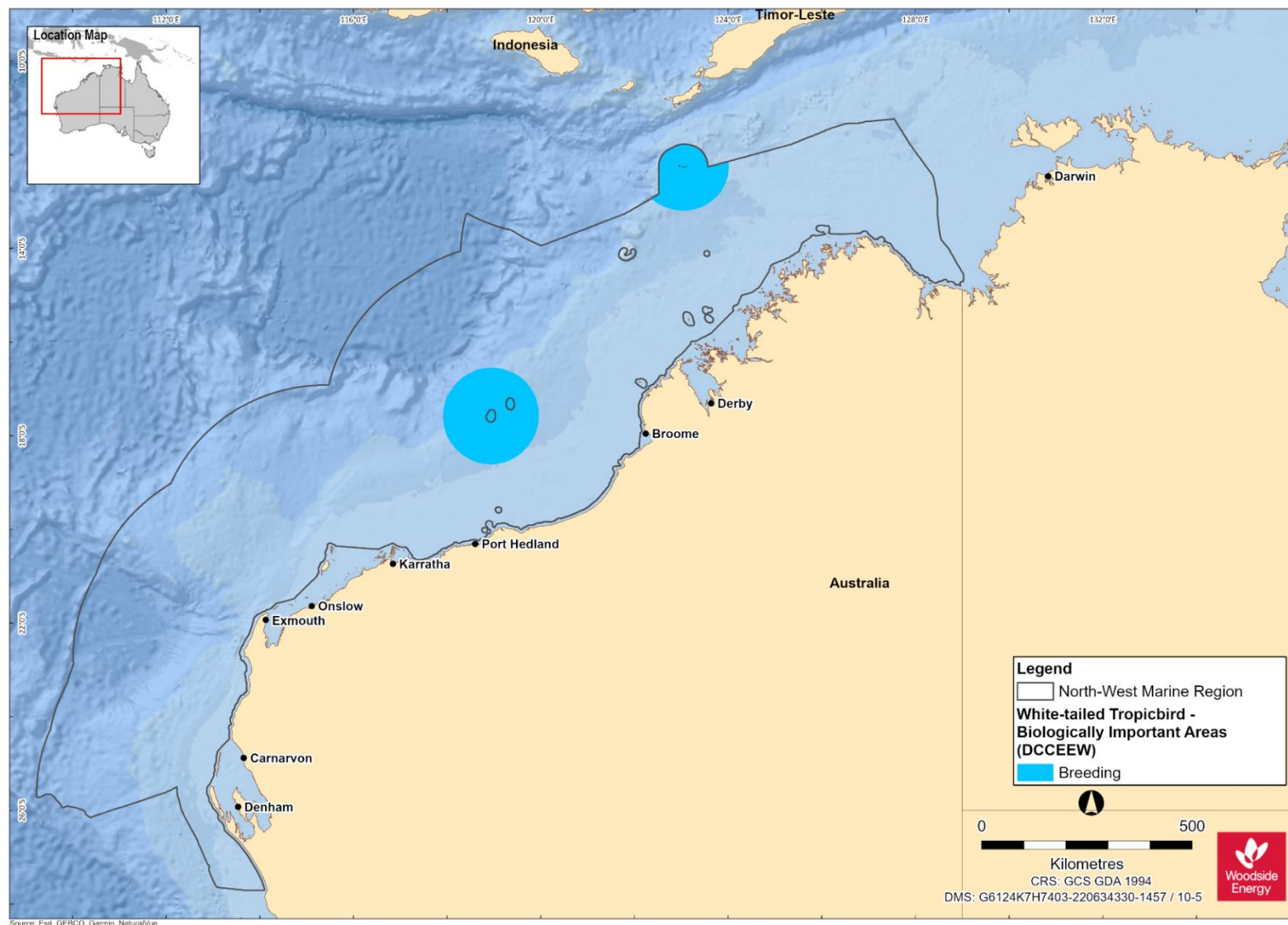


Figure 8-5: White-tailed tropicbird BIAs for the NWMR (data source: DCCEEW, 2024b)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

8.2.4 Seabird Summary for NWMR

8.2.4.1 Browse

The Browse activity area includes biologically important habitat for seven threatened and/or migratory seabird species:

- wedge-tailed shearwater (breeding/foraging)
- great and lesser frigatebirds (breeding/foraging)
- brown booby (breeding/foraging)
- red-footed booby (breeding/foraging)
- little tern (breeding/foraging)
- roseate tern (breeding and resting)
- white-tailed tropicbird (breeding).

BIAs for the seabird species are outlined in Table 8-3.

8.2.4.2 North West Shelf / Scarborough

The NWS / Scarborough activity area includes biologically important habitat for seven threatened and/or migratory seabird species:

- Australian fairy tern (breeding)
- wedge-tailed shearwater (breeding/foraging)
- lesser frigatebird (breeding/foraging)
- brown booby (breeding/foraging)
- white-tailed tropicbird (breeding)
- little tern (breeding/foraging)
- roseate tern (breeding and resting).

BIAs for the seabird species are outlined in Table 8-3.

8.2.4.3 North-west Cape

The North-west Cape activity area includes biologically important habitat for three threatened and/or migratory seabird species:

- Australian fairy tern (breeding)
- wedge-tailed shearwater (breeding/foraging)
- roseate tern (breeding and resting).

BIAs for the seabird species are listed and described in Table 8-3.

8.3 Shorebirds

Shorebirds (migratory and resident species) are generally associated with wetland or coastal environments, and the NWMR hosts many shorebird species, particularly in the Austral summer (refer to Appendix A for the EPBC Act PMST reports on listed species of shorebirds). Shorebirds may use coastal environments for feeding, nesting or migratory stopovers. In coastal environments, shorebirds generally feed during low tide on exposed intertidal mud and sand flats, and roost in suitable habitat

above the high- water mark.

The NWMR is situated within the East Asian – Australian Flyway (EAAF), a geographic region supporting populations of migratory shorebirds throughout their annual cycle. The EAAF extends from breeding grounds in the Russian tundra, Mongolia and Alaska southwards through east and south-east Asia, to non-breeding areas of Indonesia, Papua New Guinea, Australia and New Zealand (Weller and Lee, 2017). All shorebird species identified undertake annual migrations from breeding sites in the northern hemisphere to more southern non-breeding sites within the EAAF (Bamford et al., 2008).

The EAAF encompasses a large proportion of the NWMR. Migratory shorebirds may migrate through the offshore areas of the NWMR between overwinter grounds in Australia and breeding sites in the northern hemisphere (Bamford et al., 2008). Peak migration occurs between March and May (northern migration) and August and November (southern migration) (Bamford et al., 2008). Migration routes of some migratory shorebird species have been characterised using band recoveries (Minton et al 2006), however the migration pathways taken between sightings are poorly understood.

Migratory shorebird species are present in Australia during the non-breeding period (December to February), in coastal and inland habitats where adult birds build up the energy reserves necessary to support northward migration and subsequent breeding (Commonwealth of Australia, 2015c). During this time, individuals must maintain an energy intake greater than their energy expenditure to recover from the southward migration, to allow moulting, and to build fat reserves in preparation for the northward migration (Commonwealth of Australia, 2015c). The high energy demands of migration means that both foraging and resting during the non-breeding period are vital for individual fitness and survival.

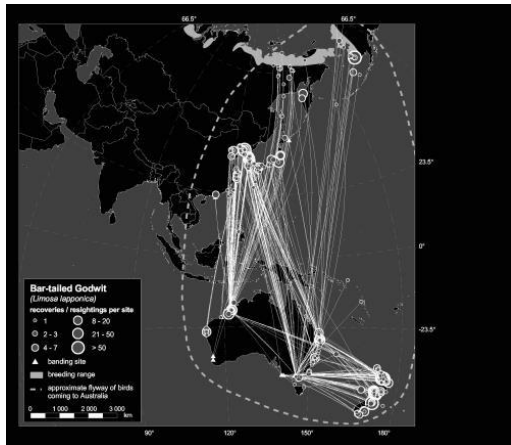
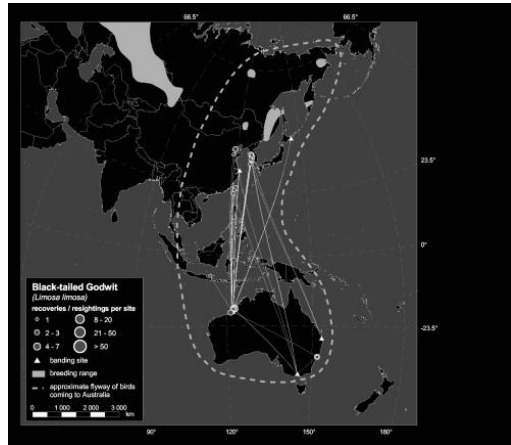
Due to differences in coastal or wetland habitat requirements between roosting and foraging behaviours, areas used most by migratory shorebirds usually comprise networks of foraging and roosting habitats. Shorebirds move between areas of this network depending on the time of day, availability of resources, levels of disturbance and environmental conditions (Commonwealth of Australia, 2015c). Displacement from one habitat or the other may result in utilisation of sub-optimal habitat and/or increase energetic demands via increased distance between habitats.

Within the EAAF, “a wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird” (Ramsar Convention Bureau, 2000). All shorebirds identified as high occurrence key species occur in shoreline habitats within the NWMR for at least part of their non-breeding season in Australia.

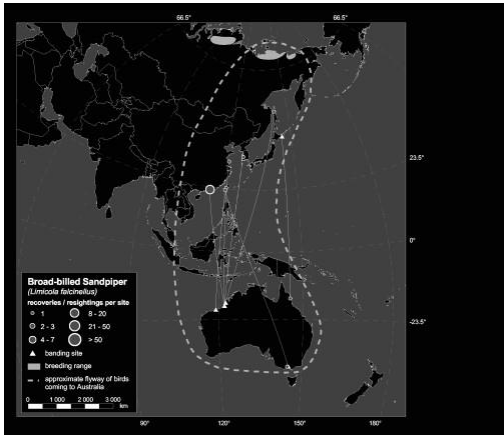
Ashmore Reef is documented as a BIA for migratory shorebirds in the NWMR (DSEWPAC, 2012a).

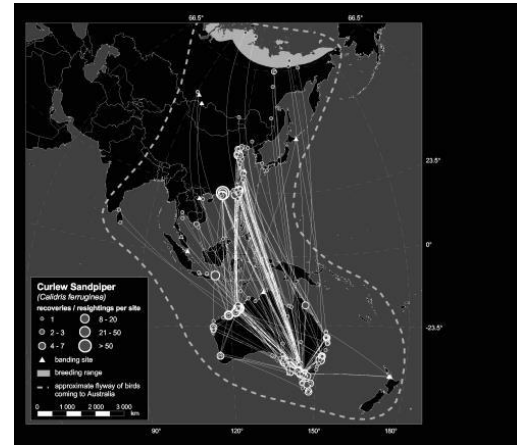
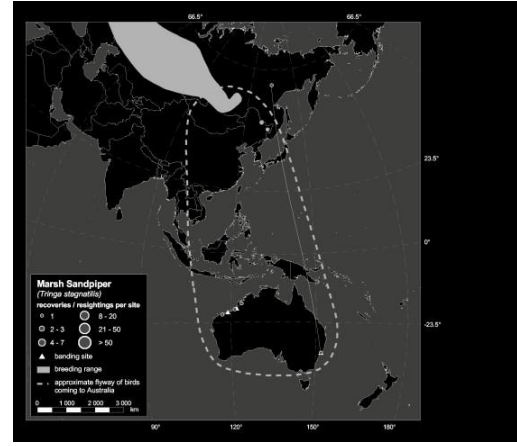
Species descriptions, including information on migration routes where available, for key high and moderate occurrence shorebird species are provided in Table 8-4 and Table 8-5. It should be noted that Minton et al. (2006) did not report on the Pilbara region or Exmouth Gulf, so the migratory pathways may be incompletely depicted.

Table 8-4: Species summary for high and selected moderate occurrence key shorebird species

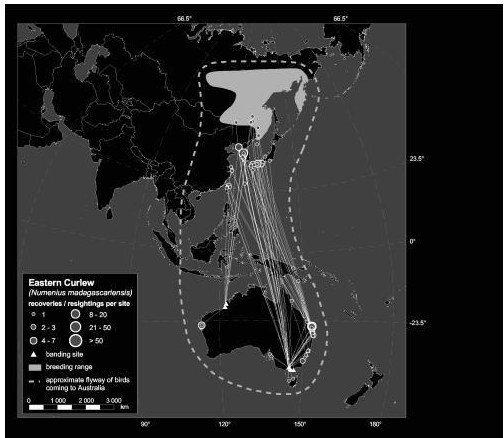
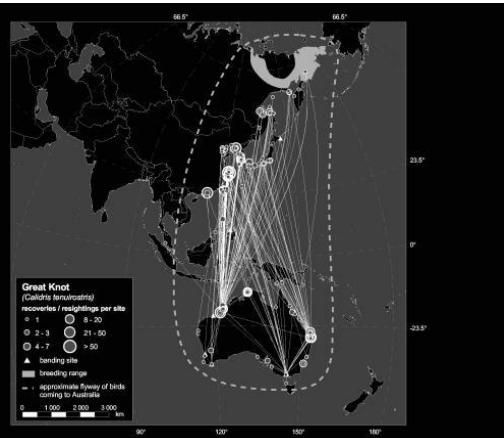
Species	Presence in NWMR	Roosting habitat	Foraging habitat	Diet	Migration From Minton et al (2006)
Bar-tailed godwit ²⁰	Widespread around the coast as far east as Derby, with a few scattered records elsewhere in the Kimberley <i>Internationally important site:</i> • Roebuck Bay • Eighty Mile Beach	Sandy beaches, sandbars, spits and also in near-coastal saltmarsh	Tidal estuaries and harbours	Worms, molluscs, crustaceans, insects and some plant material	
Black-tailed godwit	Found in coastal regions of all States and Territories of Australia <i>Internationally important site:</i> • Roebuck Bay	Claypan	Intertidal mudflats or sandflats	Annelids, crustaceans, arachnids, fish eggs and spawn and tadpoles	

²⁰ Nominate species *Limosa lapponica*. Subspecies which may occur includes *L. l. menzbieri*, which is listed Critically Endangered under the EPBC Act. Specific information on *L. l. menzbieri* is lacking, but information regarding habitat use and diet for the nominate species is considered applicable.

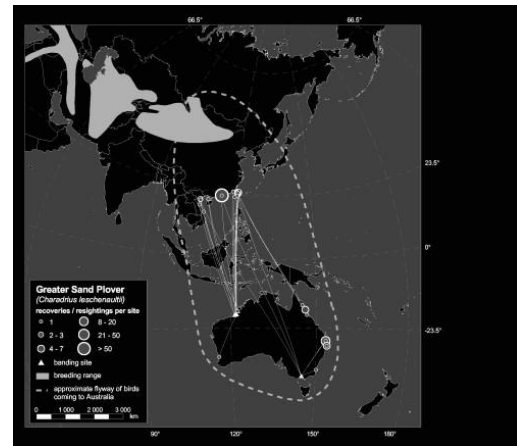
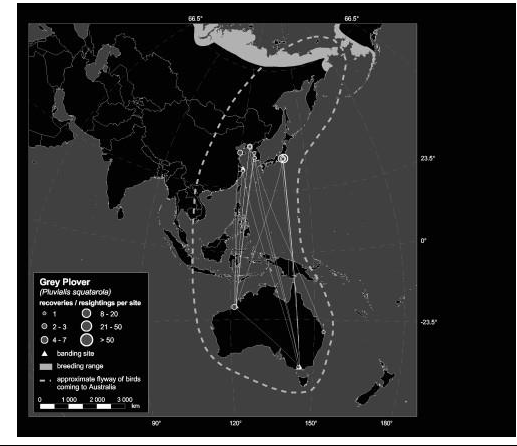
Species	Presence in NWMR	Roosting habitat	Foraging habitat	Diet	Migration From Minton et al (2006)
Broad billed sand piper	Regular visitor to coasts of the Pilbara and Kimberley between Onslow and Broome <i>Internationally important site:</i> Port Hedland Saltworks	Sheltered sandy, shelly or shingly beaches	Mudflats, mangroves	Worms, including polychaetes, molluscs, crustaceans, insects and seeds	
Common redshank	Records in the Gascoyne region, Coral Bay and Carnarvon Widespread from the Dampier Saltworks to Roebuck Bay and Broome Ashmore Reef	Sheltered coastal wetlands such as bays, river estuaries, lagoons, inlets and saltmarsh	Bare mud or sand, or on algal deposits, round the edges of wetlands	Worms, molluscs, crustaceans, arachnids and insects	Not available

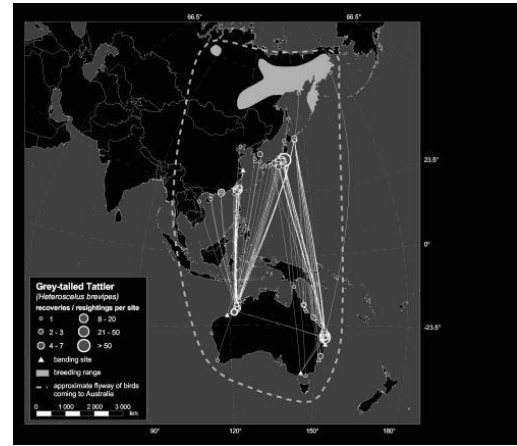
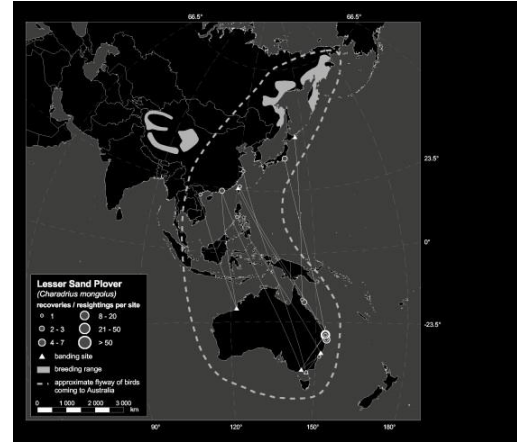
Species	Presence in NWMR	Roosting habitat	Foraging habitat	Diet	Migration From Minton et al (2006)
Curlew sandpiper	Widespread around coastal and subcoastal plains Non-breeding one year old birds may remain in Australia rather than migrating north <i>Internationally important site:</i> • Dampier Saltworks • Port Hedland Saltworks • Eighty Mile Beach • Roebuck Bay	Bare dry shingle, shell or sand beaches, sandspits and islets in or around coastal or near-coastal lagoons and other wetlands	Mudflats and nearby shallow water	Worms, molluscs, crustaceans, and insects, as well as seeds	
Marsh sandpiper	Widespread, notable areas include Eighty Mile Beach, Port Hedland Saltworks	Tidal mudflats	Mudflats, marshy vegetation	Molluscs, crustaceans and insects	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	Presence in NWMR	Roosting habitat	Foraging habitat	Diet	Migration From Minton et al (2006)
Eastern curlew	Continuous distribution from Barrow Island and Dampier Archipelago through the Kimberley region <i>Internationally important site:</i> - Eighty Mile Beach - Roebuck Bay	Sandy spits, sandbars and islets, beaches near the high-water mark, coastal vegetation including low saltmarsh or mangroves	Soft sheltered intertidal sandflats or mudflats, saltflats and saltmarsh, in proximity to mangroves, among rubble on coral reefs, and beaches near the tideline	Crustaceans small molluscs, insects	
Great knot	Common on the coasts of the Pilbara and Kimberley, from the Dampier Archipelago to the Northern Territory border <i>Internationally important site:</i> - Eighty Mile Beach - Roebuck Bay	Roosts in large groups in open areas, often at the water's edge or in shallow water close to feeding grounds	Sheltered coastal habitats with large intertidal mudflats or sandflats	Bivalves, gastropods, crustaceans and other invertebrates	

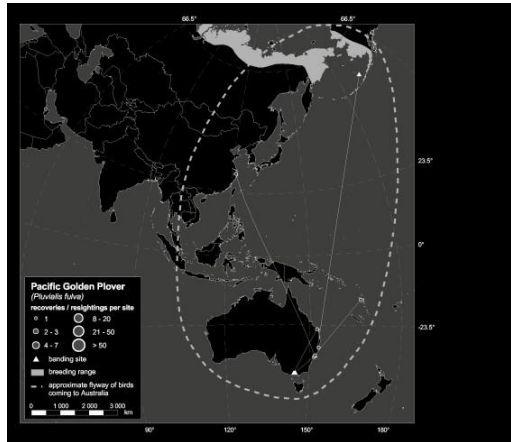
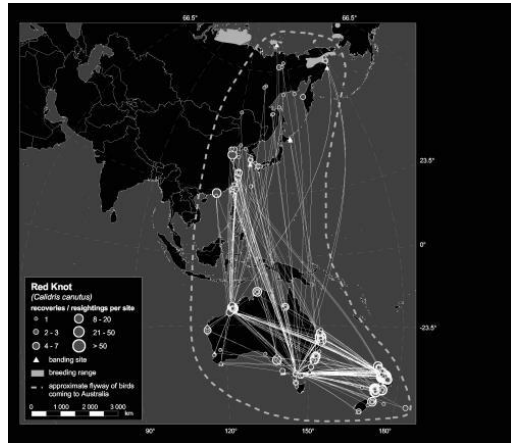
This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

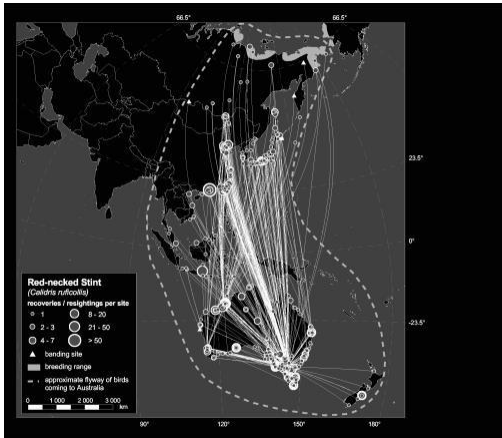
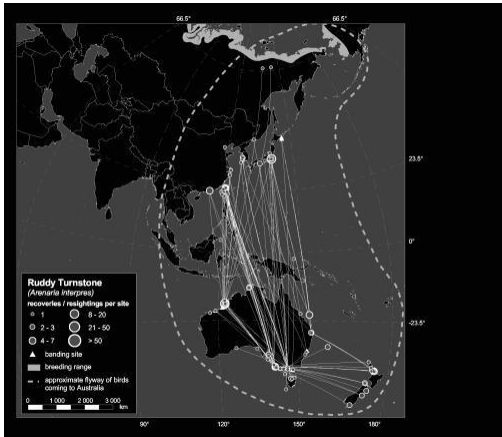
Species	Presence in NWMR	Roosting habitat	Foraging habitat	Diet	Migration From Minton et al (2006)
Greater sand plover	Widespread between North-west Cape and Roebuck Bay <i>Internationally important site:</i> - Eighty Mile Beach - Roebuck Bay	Sand-spits and banks on beaches or in tidal lagoons	Surface of wet sand or mud on open intertidal flats of sheltered embayments, lagoons or estuaries	Molluscs, worms, crustaceans and insects	 Greater Sand Plover (<i>Charadrius leschenaulti</i>) recoveries / resightings per site ○ 1 ○ 2-3 ○ 4-7 ○ 8-20 ○ 21-50 ○ >50 ▲ landing site ■ breeding range --- approximate flyway of birds coming to Australia
Grey plover	Widespread in coastal areas across Australia <i>Internationally important site:</i> - Eighty Mile Beach - Roebuck Bay	Sandy habitats including unvegetated sandbanks or sand-spits, sheltered beaches, estuaries or lagoons	Large areas of exposed mudflats and beaches of sheltered coastal shores	Molluscs, insects and their larvae, crustaceans and polychaete worms	 Grey Plover (<i>Pluvialis squatarola</i>) recoveries / resightings per site ○ 1 ○ 2-3 ○ 4-7 ○ 8-20 ○ 21-50 ○ >50 ▲ landing site ■ breeding range --- approximate flyway of birds coming to Australia

Species	Presence in NWMR	Roosting habitat	Foraging habitat	Diet	Migration From Minton et al (2006)
Grey-tailed tattler	Widespread from Houtman Abrolhos and the mainland adjacent to the Kimberley <i>Internationally important site:</i> - Barrow Island - Roebuck Bay - Eighty Mile Beach - Lacepede Islands	Branches of mangroves, snags or driftwood	Shallow water on hard intertidal substrates, such as reefs and rock platforms, in rock pools and among rocks and coral rubble	Polychaetes, molluscs, crustaceans, insects and, occasionally, fish	
Lesser Sand Plover	<i>Widespread, internationally important site:</i> - Eighty Mile Beach - Roebuck Bay - Broome - Port Hedland Saltworks	Beaches, banks, spits of sand or shell, occasionally rocky spits, islets and reefs	Exposed intertidal sandflats and mudflats of beaches or estuaries, occasionally shallow water in saltworks	Molluscs, worms, crustaceans and insects	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	Presence in NWMR	Roosting habitat	Foraging habitat	Diet	Migration From Minton et al (2006)
Oriental plover	Most records are along the north- western coast, between Exmouth Gulf and Derby in Western Australia <i>Internationally important site:</i> • Dampier Saltworks • Port Hedland Saltworks • Eighty Mile Beach • Roebuck Bay	Soft wet mud or in shallow water of beaches and tidal mudflats	Short grass, hard stony bare ground, mudflats or among beachcast seaweed on beaches	Insects, including termites, beetles, grasshoppers, crickets	Not available
Oriental pratincole	Widespread along the coasts of the Pilbara and Kimberley <i>Internationally important site:</i> • Eighty Mile Beach • Roebuck Plains	Bare areas such as claypans or areas with low vegetation, such as saltmarsh	Open plains, floodplains or short grassland, artificial wetlands (saltworks), beaches, mudflats and islands, or around coastal lagoons Usually feeds aerially, at heights varying from just above the ground up to 300 m	Insects, including dragonflies, cicadas, beetles, moths, ants, termites, locusts, grasshoppers, flies, bees and wasps	Not available

Species	Presence in NWMR	Roosting habitat	Foraging habitat	Diet	Migration From Minton et al (2006)
Pacific golden plover	Widespread along the coasts of the Pilbara and Kimberley <i>Nationally important site:</i> Eighty Mile Beach	Sandy beaches and spits, rocky points, islets, exposed reef, occasionally mangrove and saltmarsh vegetation, beachcast seaweed, levee banks and saltwork evaporation ponds	Sandy, muddy and rocky shores, sheltered estuaries and lagoons, occasionally saltmarsh, mangrove or pasture	Molluscs, polychaete worms, insects, insect larvae, spiders, crustaceans, occasionally seeds, leaves, lizards, bird eggs and fish	
Red knot	Large numbers regularly recorded in north-west Australia <i>Internationally important site:</i> - Eighty Mile Beach - Roebuck Bay	Sandy beaches, spits and islets, and mudflats close to feeding grounds	Soft substrate near the water edge including intertidal mudflats and sandflats exposed by low tide	Worms, bivalves, gastropods, crustaceans and echinoderms	

Species	Presence in NWMR	Roosting habitat	Foraging habitat	Diet	Migration From Minton et al (2006)
Red-necked stint	Widespread in coastal areas across Australia <i>Internationally important site:</i> - Barrow Island - Port Hedland Saltworks - Eighty Mile Beach - Roebuck Bay	Sheltered beaches, spits, banks or islets of sand, mud, coral or shingle, occasionally in saltmarsh or other vegetation	Feed in dense flocks on bare wet mud such as intertidal mudflats or sandflats, or in very shallow water	Marine worms, molluscs, snails and slugs, shrimps, spiders, beetles, flies and ants	
Ruddy turnstone	Found in most coastal regions across Australia <i>Internationally important site:</i> - Barrow Island - Eighty Mile Beach - Roebuck Bay - Lacepede Islands	Beaches above the tideline, among rocks, shells, beachcast seaweed or other debris	Between lower supralittoral and lower littoral zones of foreshores. Often forage among banks of stranded seaweed or other tide-wrack. Occasionally forage on exposed rocky platforms, coral reefs and mudflats	Insects, worms, crustaceans, molluscs, and spiders Occasionally been known to eat fish, birds' eggs and carrion and human food scraps	
Ruff	Periodically recorded in Port Hedland, Kununurra and the Argyle Diamond Mine	Wetlands with exposed mudflats and short dense vegetation	Exposed mudflats with shallow water and dry mud	Moss, plant fibre, seeds, annelid worms, molluscs, crustaceans, spiders, insects, fish and amphibians	Not available

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	Presence in NWMR	Roosting habitat	Foraging habitat	Diet	Migration From Minton et al (2006)
Sanderling	Occur most of the NWMR coast as far east as Derby <i>Internationally important site:</i> - Eighty Mile Beach - Roebuck Bay	Bare sand high on the beach clumps of washed-up kelp coastal dunes rocky reefs and ledge	Open sandy beaches exposed to open sea-swell, exposed sandbars and spits and shingle banks, where they forage in the wave-wash zone and amongst rotting seaweed.	Plants, seeds, worms, crustaceans, spiders, insects. Occasionally on medusae, fish, larger molluscs and crustaceans taken as carrion	
Sharp-tailed sandpiper	Widespread from Cape Arid to Carnarvon, around coastal and subcoastal plains of Pilbara to Kimberley <i>Internationally important site:</i> - Port Hedland Saltworks - Eighty Mile Beach	Edges of wetlands, on wet open mud or sand, in shallow water, or in short sparse vegetation, such as grass or saltmarsh	Edge of the water of wetlands or intertidal mudflats, either on bare wet mud or sand, or in shallow water. Also forage among inundated vegetation of saltmarsh, grass or sedges	Seeds, worms, molluscs, crustaceans and insects	

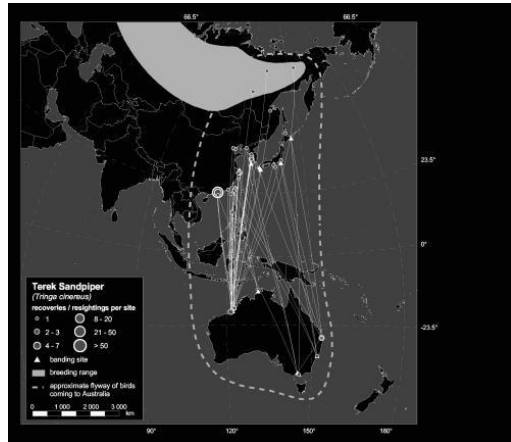
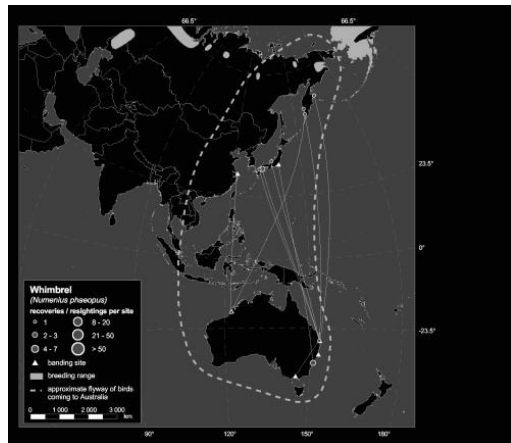
Species	Presence in NWMR	Roosting habitat	Foraging habitat	Diet	Migration From Minton et al (2006)
Terek sandpiper	The species is widespread in the Pilbara and Kimberley, from Dampier to Wyndham, with occasional records around Shark Bay <i>Internationally important site:</i> - Eighty Mile Beach - Roebuck Bay	In or among mangroves, may perch in branches or roots up to 2 m from the ground, or in shade beneath	Soft wet intertidal mudflats or in sheltered estuaries, embayments, harbours or lagoons	Crustaceans, insects, seeds, molluscs and arachnids	
Whimbrel	Widespread from Carnarvon to the north-east Kimberley Primarily coastal distribution. There are also scattered inland records of Whimbrels in all regions <i>Internationally important site:</i> Roebuck Bay	Regularly roost in mangroves and other structures flooded at high tide. May also roost on ground of muddy, sandy or rocky beaches; rocky islets and coral cays.	Intertidal mudflats, muddy banks of estuaries and in coastal lagoons, open unvegetated areas or among mangroves. Occasionally on sandy beaches or among rocks	Annelids, crustaceans and, rarely, vertebrates (e.g. small fish, little tern chicks)	

Table 8-5: Species summary for moderate occurrence key shorebird species

Species	NWMR Presence	Roosting Habitat	Foraging Habitat	Diet
Asian dowitcher	Regular visitor to the north-west between Port Hedland and Broome <i>Internationally important sites:</i> • Roebuck Bay • Port Hedland saltworks	Coastal lagoons, estuaries and tidal creeks	Intertidal mud flats	Polychaete worms and larvae, also insect larvae and molluscs
Australian painted snipe	Widespread in low numbers	Shallow freshwater wetlands with bare mud and dense canopy cover	Dense vegetation cover, occasionally mudflats and grassland	Vegetation, seeds, insects, worms, molluscs and crustaceans
Little curlew	Widespread with distribution concentrated along the northern coast from Port Hedland during the non-breeding season. <i>Internationally important sites:</i> • Roebuck Plains • Roebuck Bay • Anna Plains • Derby Sewage Ponds • Parry Floodplain	Short, dry grassland, and occasionally dry saltmarshes, coastal swamps, mudflats or sandflats in estuaries, or on the beaches of sheltered coasts.	Short, dry grassland and sedgeland with shallow freshwater pools or seasonal inundation	Insects, seeds and berries.
Common greenshank	Occurs in all types of wetlands and has the widest distribution of any shorebird in Australia <i>Internationally important sites:</i> • Eighty Mile Beach • Roebuck Bay	Wetlands, shallow pools and puddles, or slightly elevated on rocks, sandbanks or small muddy islets	Edges of wetlands, in soft mud on mudflats, in channels, among pneumatophores of mangroves or other sparse, emergent or fringing vegetation, such as sedges or saltmarsh	Molluscs, crustaceans, insects, and occasionally fish and frogs
Common sandpiper	Widespread in low numbers	Rocks or in roots or branches of vegetation, especially mangroves	Bare soft mud at the edges of wetlands	Molluscs, crustaceans and insects
Pectoral sandpiper	Low numbers recorded across the Gascoyne, Pilbara and Kimberley regions	Coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands	Bare soft mud at the edges of wetlands	Algae, seeds, crustaceans, arachnids and insects

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	NWMR Presence	Roosting Habitat	Foraging Habitat	Diet
Wood sandpiper	NWMR supports largest numbers in Australia. Notable areas include Parry floodplain, Shark Bay	Low trees, grassy hillocks	Bare soft mud at the edges of wetlands	Insects and molluscs
Long-toed stint	Widespread along the coasts of the Pilbara and Kimberley	Shallow inland wetlands	Wetland or islets with wet mud or shallow water and short vegetation	Seeds, molluscs, crustaceans, insects, occasionally algae
Pin-tailed snipe	Recorded in the Pilbara, Port Hedland, Myaree Pool, Maitland River and near Karratha	Wide variety of wetland habitats including flooded paddy-fields, wet grasslands, seepage swamps and marshland	Muddy shorelines of swamps and along streams	Molluscs, adult and larval insects, earthworms and occasionally crustaceans, seeds and other plant matter
Swinhoe's snipe	Recorded in the Pilbara, Kimberley, Mount Goldsworth, Mount Blaize and near the Mitchell Plateau	Grasses and rushes around the edge of fresh and brackish marshes	Grasses and rushes near the water edge, in addition to hummocks or on mudflats around seepage areas	Earthworms, adult and larval insects

8.4 Other Marine Birds

Species descriptions for high occurrence key other marine bird species are summarised in Table 8-6.

Table 8-6: Species summary for high occurrence key other marine bird species

Species	NWMR presence	Predominant feeding behaviour	Diet
Fork-tailed swift	<i>Non-breeding:</i> Oct–Apr Widespread in coastal areas as far north as Carnarvon, including some on nearshore and offshore islands Scattered along the Pilbara coast to the east Kimberley region	Aerial forager, flying anywhere from 1 m to 300 m above the ground to forage Typically feed in flocks ranging from 10 to 1000 birds	Insectivorous
Osprey	<i>Breeding:</i> April to February, though depends on latitude. NWMR individuals breeding early in season compared to SWMR <i>Non-breeding:</i> remain in breeding territories Continuous distribution of the species around the coast except for a possible gap at Eighty Mile Beach	Hover momentarily and then dive down, sometimes in stages, before snatching prey from near the surface with the feet or by plunging into the water feet first	Fish, especially mullet where available Rarely take molluscs, crustaceans, insects, reptiles, birds and mammals

9. THREATENED AND MIGRATORY SPECIES SEASONAL PRESENCE

Seasonal sensitivity for key threatened and migratory species in the NWMR presented in Table 9-1. The timing presented is displayed as a broad representation for the NWMR, with location specific seasonality presented within Environment Plans (EPs).

Table 9-1: Seasonal sensitivity of key threatened and migratory species in the NWMR

Species	January	February	March	April	May	June	July	August	September	October	November	December
Fishes, Sharks and Rays												
Whale shark – foraging (northward from Ningaloo) ¹												
Whale shark – foraging (high density prey, Ningaloo Reef) ²												
Dwarf sawfish – reproduction ³												
Dwarf sawfish – foraging ⁴												
Large-tooth (freshwater) sawfish – reproduction (pupping) ⁵												
Large-tooth (freshwater) sawfish – foraging												
Green sawfish (reproduction)												
Green sawfish (foraging)												
Marine Reptiles – Marine Turtle Nesting [note: hatchling emergence is generally 6-8 weeks post-nesting activity]												
Green Turtle												
Ashmore Reef Stock (G-AR) ⁶												
Scott Reef-Browse Island Stock (G-ScBr) ⁷												
NWS Stock (G-NWS) ⁸												
Hawksbill Turtle												
Western Australia Stock (H-WA) ⁹												
Flatback Turtle												
Cape Domett Stock (F-CD) ¹⁰												

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	January	February	March	April	May	June	July	August	September	October	November	December
South-west Kimberley Stock (F-swKim) ¹¹												
Pilbara Stock (F-Pil) ¹²												
Unknown genetic stock Kimberley, Western Australia ¹³												
Loggerhead Turtle												
Western Australia Stock (LH-WA) ¹⁴												
Cetaceans												
Fin whale ¹⁵												
Humpback whale – northern migration ¹⁶												
Humpback whale – southern migration ¹⁷												
Humpback whale – reproduction (nursing, Kimberley coast) ¹⁸												
Omura's whale ¹⁹												
Pygmy blue whale – northern migration ²⁰												
Pygmy blue whale – southern migration ²¹												
Southern right whale (calving/presence in NWMR) ²²												
Seabirds (high occurrence seabirds with designated BIAs)												
Wedge-tailed shearwater - breeding / foraging *fledgling emergence (first two weeks of April)				*								
Australian lesser noddy NWMR presence in non-breeding period *breeding – Ashmore Reef and Abrolhos, may forage in NWMR								*	*	*	*	*
Common noddy – breeding												
Bridled tern – breeding and foraging												
Great frigatebird – breeding / foraging *possibly present in NWMR in non-breeding and foraging in breeding season	*	*	*	*	*	*	*	*	*			

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Species	January	February	March	April	May	June	July	August	September	October	November	December
Lesser frigatebird – breeding / foraging *possibly present in NWMR in non-breeding and foraging in breeding season	*	*	*	*	*	*	*	*	*			
Brown booby – presence in NWMR (breeding / foraging) Present NWMR year-round (breeding at Ashmore Reef, Adele Island, Lacepedes between Jan-Mar (protracted through to Oct at Ashmore Reef)												
Red-footed booby – presence in NWMR (breeding / foraging) Breed at Ashmore Reef and Adele Island, recorded breeding year-round at Ashmore Reef												
Little tern – breeding / foraging maybe present in NWMR outside breeding season – foraging and resting												
Roseate tern – breeding												
Caspian tern – breeding Dampier Archipelago and North-west Cape												
Greater crested tern												
White-tailed and red-tailed tropicbird – breeding largest breeding populations on Christmas Island												
	Peak period (reliable / predictable)											
	Species present / undertaking biologically important behaviour in the NWMR											
	Species not likely to be present or undertaking biologically important behaviour in NWMR											

¹Whale shark foraging northward from Ningaloo in Spring (DCCEEW, 2024b¹⁵). Migration along the north coast of WA also known to occur between July–November (TSSC, 2015d). Potential presence of whale sharks year-round at Ningaloo (Norman et al., 2017).

²Whale shark foraging (high density prey) Ningaloo April–June, Autumn (DCCEEW, 2024b¹⁵). March–July (TSSC, 2015d). Potential presence of whale sharks year-round at Ningaloo (Norman et al., 2017).

³Dwarf sawfish reproduction- potential to occur in all seasons (DCCEEW, 2024b¹⁵).

⁴Dwarf sawfish foraging- potential to occur in all seasons (DCCEEW, 2024b¹⁵).

⁵Large tooth (freshwater) sawfish pupping occurs from January to May (DCCEEW, 2024b¹⁵).

⁶Green turtle nesting Ashmore Reef Stock – year-round (peak: December–January) (CoA, 2017).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

⁷Green turtle nesting Scott Reef-Browse Island Stock November–March (CoA, 2017).

⁸Green turtle nesting NWS Stock November–March (CoA, 2017).

⁹Hawskbill turtle nesting Western Australia Stock October–February (CoA, 2017).

¹⁰Flatback turtle nesting Cape Domett Stock – year-round (peak July–September) (CoA, 2017).

¹¹Flatback turtle nesting South-west Kimberley Stock – October–March (CoA, 2017).

¹² Flatback turtle nesting Pilbara Stock – October–March (CoA, 2017).

¹³Unknown stock nesting Kimberley May–July (CoA, 2017).

¹⁴Loggerhead turtle nesting Western Australia stock November–May.

¹⁵Fin whale presence NWMR May–October (Aulich et al., 2022). Migrating north from Cape Leewuin (SWMR) May–October. Present offshore Dampier August–October (Aulich et al., 2022).

¹⁶Humpback whale northern migration. Range June–September (DCCEEW, 2024b15; TSSC, 2015b; DSEWPac, 2012a). Peak July–August (Salgado Kent et al., 2012).

¹⁷Humpback whale southern migration. Range July–November. Peak August- October. (TSSC, 2015b; Irvine and Salgado Kent, 2019; Salgado Kent et al., 2012; DSEWPac, 2012a)

¹⁸Humpback whale – reproduction (nursing, Kimberley coast) Winter (DCCEEW, 2024b15). Breeding August–September (DSEWPac, 2012a; TSSC, 2015b). Calves present off Kimberley in October (Thums et al., 2018).

²Pygmy blue whale northern migration April–August (DCCEEW, 2024b15; DSEWPac, 2012a; McCauley et al., 2018; CoA, 2015a). Peak April–July (Thums et al., 2022) refers to Western Australia from the Perth Canyon (April/May) to the North West Shelf (June/July).

²¹Pygmy blue whale southern migration October–December, possibly into January (DCCEEW, 2024b15; DSEWPac, 2012a citing (McCauley and Jenner, 2010; McCauley et al., 2018; Thums et al., 2022; CoA, 2015a). Peak November–December (Thums et al., 2022).

²²Southern right whale calving and migratory presence in Exmouth Gulf (NWMR) June to September with peak months July and August (DCCEEW, 2024a) All seabird seasonality information derived from BIA metadata, scientific publications and expert opinion (Worley, 2024).

¹⁹Limited data however sightings reported year-round (Cerchio et al., 2019).

10. KEY ECOLOGICAL FEATURES

Key ecological features (KEFs) are elements of the Commonwealth marine environment that are considered to be important for a marine region's biodiversity or ecosystem function and integrity. KEFs have been identified by the Australian Government based on advice from scientists about the ecological processes and characteristics of the area.

KEFs meet one or more of the criteria of:

- a species, group of species, or a community with a regionally important ecological role (e.g. a predator, prey that affects a large biomass or number of other marine species)
- a species, group of species or a community that is nationally or regionally important for biodiversity
- an area or habitat that is nationally or regionally important for:
 - enhanced or high productivity (such as predictable upwellings – an upwelling occurs when cold nutrient-rich waters from the bottom of the ocean rise to the surface)
 - aggregations of marine life (such as feeding, resting, breeding or nursery areas), or
 - biodiversity and endemism (species which only occur in a specific area)
- a unique seafloor feature, with known or presumed ecological properties of regional significance.

Thirteen KEFs are designated within the NWMR, 12 KEFs within the SWMR and eight KEFs within the NMR. These KEFs have been identified in the Protected Matters search (Appendix A) and outlined in Table 10-1, Table 10-2 and Table 10-3, and Figure 10-1, Figure 10-2 and Figure 10-3.

Table 10-1: Key Ecological Features (KEFs) within the NWMR

KEF Name	Woodside Activity Area			Values ¹	Description
	Browse	NWS/S	NW Cape		
Carbonate bank and terrace system of the Sahul Shelf	✓	-	-	Unique seafloor feature with ecological properties of regional significance Regionally important because of their role in enhancing biodiversity and local productivity relative to their surrounds. The carbonate banks and terraces provide areas of hard substrate in an otherwise soft sediment environment which are important for sessile species	The carbonate banks and terrace system of the Sahul Shelf are located in the western Joseph Bonaparte Gulf and to the north of Cape Bougainville and Cape Londonderry. The carbonate banks and terraces are part of a larger complex of banks and terraces that occurs on the Van Diemen Rise in the adjacent NMR. The bank and terrace system of the Van Diemen Rise covers approximately 31,278 km² and forms part of the larger system associated with the Sahul Banks to the north and Londonderry Rise to the east. The feature is characterised by terrace, banks, channels and valleys (DSEWPAC, 2012c). The banks, ridges and terraces of the Van Diemen Rise are raised geomorphic features with relatively high proportions of hard substrate that support sponge and octocoral gardens. These, in turn, provide habitat to other epifauna, by providing structure in an otherwise flat environment (Przeslawski et al., 2011). Plains and valleys are characterised by scattered epifauna and infauna that include polychaetes and ascidians. These epibenthic communities support higher order species such as olive ridley turtles, sea snakes and sharks (DSEWPAC, 2012c).
Pinnacles of the Bonaparte Basin	✓	-	-	Unique seafloor feature with ecological properties of regional significance Provide areas of hard substrate in an otherwise soft sediment environment and so are important for sessile species Recognised as a biodiversity hotspot for sponges The Pinnacles of the Bonaparte Basin KEF is located within both the NWMR and NMR (refer Table 10-3)	The Pinnacles of the Bonaparte Basin provide areas of hard substrate in an otherwise relatively featureless environment, the pinnacles are likely to support a high number of species, although a better understanding of the species richness and diversity associated with these structures is required (DSEWPAC, 2012a, 2012c). Covering >520 km² within the Bonaparte Basin, this feature contains the largest concentration of pinnacles along the Australian margin. The Pinnacles of the Bonaparte Basin are thought to be the eroded remnants of underlying strata; it is likely that the vertical walls generate local upwelling of nutrient-rich water, leading to phytoplankton productivity that attracts. aggregations of planktivorous and predatory fish, seabirds, and foraging turtles (DSEWPAC, 2012a, 2012c).

KEF Name	Woodside Activity Area			Values ¹	Description
	Browse	NWS/S	NW Cape		
Ashmore Reef and Cartier Island and surrounding Commonwealth waters	✓	-	-	High productivity, biodiversity and aggregation of marine life that apply to both the benthic and pelagic habitats within the feature	Ashmore Reef is the largest of only three emergent oceanic reefs present in the north-eastern Indian Ocean and is the only oceanic reef in the region with vegetated islands. Ashmore contains a large reef shelf, two large lagoons, several channelled carbonate sand flats, shifting sand cays, an extensive reef flat, three vegetated islands—East, Middle and West islands—and surrounding waters. Rising from a depth of more than 100 m, the reef platform is at the edge of the NWS and covers an area of 239 km ² . Ashmore Reef and Cartier Island and the surrounding Commonwealth waters are regionally important for feeding and breeding aggregations of birds and other marine life; they are areas of enhanced primary productivity in an otherwise low- nutrient environment (DSEWPAC, 2012a). Ashmore Reef supports the highest number of coral species of any reef off the WA coast.
Seringapatam Reef and the Commonwealth waters in the Scott Reef complex	✓	-	-	Support diverse aggregations of marine life, have high primary productivity relative to other parts of the region, are relatively pristine and have high species richness, which apply to both the benthic and pelagic habitats within the feature	Seringapatam Reef and the Commonwealth waters in the Scott Reef complex are regionally important in supporting the diverse aggregations of marine life, high primary productivity, and high species richness associated with the reefs themselves. As two of the few offshore reefs in the North-west, they provide an important biophysical environment in the region (DSEWPAC, 2012a).

KEF Name	Woodside Activity Area			Values ¹	Description
	Browse	NWS/S	NW Cape		
Continental slope demersal fish communities	✓	✓	✓	High biodiversity of demersal fish assemblages, including high levels of endemism	The diversity of demersal fish assemblages on the continental slope in the Timor Province, the Northwest Transition and the North-west Province is high compared to elsewhere along the Australian continental slope (DSEWPAC, 2012a). The continental slope between North-west Cape and the Montebello Trough has more than 500 fish species, 76 of which are endemic, which makes it the most diverse slope bioregion in Australia (Last et al., 2005). The slope of the Timor Province and the Northwest Transition also contains more than 500 species of demersal fishes of which 64 are considered endemic (Last et al., 2005), making it the second richest area for demersal fishes throughout the whole continental slope. Demersal fish species occupy two distinct demersal biomes associated with the upper slope (225–500 m water depths) and the mid-slope (750–1000 m). Although poorly known, it is suggested that the demersal slope communities rely on bacteria and detritus-based systems comprised of infauna and epifauna, which in turn become prey for a range of teleost fishes, molluscs and crustaceans (Brewer et al., 2007). Higher-order consumers may include carnivorous fishes, deepwater sharks, large squid, and toothed whales (Brewer et al., 2007). Pelagic production is phytoplankton-based, with hot spots around oceanic reefs and islands (Brewer et al., 2007)

KEF Name	Woodside Activity Area			Values ¹	Description
	Browse	NWS/S	NW Cape		
Ancient coastline at 125 m depth contour	✓	✓	✓	Unique seafloor feature with ecological properties of regional significance Provides areas of hard substrate and therefore may provide sites for higher diversity and enhanced species richness relative to surrounding areas of predominantly soft sediment	Several steps and terraces as a result of Holocene sea level changes occur in the region, with the most prominent of these features occurring as an escarpment along the NWMR and Sahul Shelf at a water depth of 125 m. The ancient coastline is not continuous throughout the NWMR and coincides with a well-documented eustatic stillstand at about 130 m depth worldwide (Falkner et al., 2009). Where the ancient coastline provides areas of hard substrate, it may contribute to higher diversity and enhanced species richness relative to soft sediment habitat (Falkner et al., 2009). Parts of the ancient coastline, represented as rocky escarpment, are considered to provide biologically important habitat in an area predominantly made up of soft sediment. The escarpment type features may also potentially facilitate mixing within the water column due to upwelling, providing a nutrient-rich environment. Although the ancient coastline adds additional habitat types to a representative system, the habitat types are not unique to the coastline as they are widespread on the upper shelf (Falkner et al., 2009).
Canyons linking the Argo Abyssal Plain and Scott Plateau	-	✓	-	Facilitates nutrient upwelling, creating enhanced productivity and encouraging diverse aggregations of marine life Likely to be important due to their historical association with sperm whale aggregations	Interactions with the Leeuwin Current and strong internal tides are thought to result in upwelling at the canyon heads, thus creating conditions for enhanced productivity in the region (Brewer et al., 2007). As a result, aggregations of whale sharks, manta rays, humpback whales, sea snakes, sharks, predatory fishes and seabirds are known to occur in the area due to its enhanced productivity (Sleeman et al., 2007).

KEF Name	Woodside Activity Area			Values ¹	Description
	Browse	NWS/S	NW Cape		
Glomar Shoal	-	✓	-	An area of high productivity and aggregations of marine life including commercial and recreational fish species	Glomar Shoal is a submerged littoral feature located about 150 km north of Dampier on the Rowley shelf at depths of 33–77 m (Falkner et al., 2009). Studies by Abdul Wahab et al. (2018) found a number of hard coral and sponge species in water depths less than 40 m. One hundred and seventy different species of fishes were detected with greatest species richness and abundance in shallow habitats (Abdul Wahab et al., 2018). Fish species present include a number of commercial and recreational species such as rankin cod, brown striped snapper, red emperor, crimson snapper, bream and yellow-spotted triggerfish (Falkner et al., 2009; Fletcher and Santoro, 2009). These species have recorded high catch rates associated with Glomar Shoal, indicating that the shoal is likely to be an area of high productivity.
Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	-	✓	-	Regionally important in supporting high species richness, higher productivity and aggregations of marine life	The Mermaid Reef and Commonwealth waters surrounding the Rowley Shoals KEF is adjacent to the three nautical mile State waters limit surrounding Clerke Reef and Imperieuse Reef, and include the Mermaid Reef Marine Park as described in Section 11. The reefs provide a distinctive biophysical environment in the region. They have steep and distinct reef slopes and associated fish communities. In evolutionary terms, the reefs may play a role in supplying coral and fish larvae to reefs further south via the southward flowing Indonesian Throughflow. Both coral communities and fish assemblages differ from similar habitats in eastern Australia (Done et al., 1994).

KEF Name	Woodside Activity Area			Values ¹	Description
	Browse	NWS/S	NW Cape		
Exmouth Plateau	-	✓	✓	Unique seafloor feature with ecological properties of regional significance, which apply to both benthic and pelagic habitats. Likely to be an important area of biodiversity as it provides an extended area offshore for communities adapted to depths of approximately 1000 m.	The Exmouth Plateau is a large, mid-slope, continental margin plateau that lies off the northwest coast of Australia. It ranges in depth from about 500 to more than 5000 m and is a major structural element of the Carnarvon Basin (Miyazaki and Stagg, 2013). The large size of the Exmouth Plateau and its expansive surface may modify deep water flow and be associated with the generation of internal tides; both of which may subsequently contribute to the upwelling of deeper, nutrient-rich waters closer to the surface (Brewer et al., 2007). Satellite observations suggest that productivity is enhanced along the northern and southern boundaries of the plateau (Brewer et al., 2007). Sediments on the plateau suggest that biological communities include scavengers, benthic filter feeders and epifauna (DSEWPAC, 2012a). Fauna in the pelagic waters above the plateau are likely to include small pelagic species and nekton attracted to seasonal upwellings, as well as larger predators such as billfishes, sharks and dolphins (Brewer et al., 2007). Protected and migratory species are also known to pass through the region, including whale sharks and cetaceans.
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	-	-	✓	Unique seafloor feature with ecological properties of regional significance. The feature creates an enhanced productivity environment, attracting aggregations of fish and higher-order consumers such as large predatory fish, sharks, toothed whales and dolphins.	The canyons are associated with upwelling as they channel deep water from the Cuvier Abyssal Plain up onto the slope, Exmouth Plateau and Ningaloo Reef. This nutrient-rich water interacts with the Leeuwin Current at the canyon heads (DSEWPAC, 2012a). Aggregations of whale sharks, manta rays, sea snakes, sharks, large predatory fish, and seabirds are known to occur in this area.
Commonwealth waters adjacent to Ningaloo Reef	-	-	✓	High productivity and diverse aggregations of marine life. The Commonwealth waters adjacent to Ningaloo Reef and associated canyons and plateaus are interconnected and support the high productivity and species richness of Ningaloo Reef. Ningaloo Reef is globally significant as it is the only extensive coral reef in the world that fringes the west coast of a continent.	The Leeuwin and Ningaloo currents interact, leading to areas of enhanced productivity in the Commonwealth waters adjacent to Ningaloo Reef. Aggregations of whale sharks, manta rays, humpback whales, sea snakes, sharks, large predatory fish, and seabirds are known to occur in this area (DSEWPAC, 2012a). The spatial boundary of this KEF, as defined in the Australian Marine Spatial Information System, is defined as the waters contained in the existing Ningaloo AMP provided in Section 11.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

KEF Name	Woodside Activity Area			Values ¹	Description
	Browse	NWS/S	NW Cape		
Wallaby Saddle	-	-	✓	High productivity and aggregations of marine life: Representing almost the entire area of this type of geomorphic feature in the NWMR. It is a unique habitat that neither occurs anywhere else nearby (within hundreds of kilometres) nor with as large an area (Falkner et al., 2009)	The Wallaby Saddle may be an area of enhanced productivity. Historical whaling records provide evidence of sperm whale aggregations in the area of the Wallaby Saddle, possibly due to the enhanced productivity of the area and aggregations of baitfish (DSEWPAC, 2012a).

¹Values description sourced from Marine bioregional plan for the North-west Marine Region (DSEWPAC, 2012a) and the Department of Agriculture, Water and the Environment (DAWE) SPRAT database.

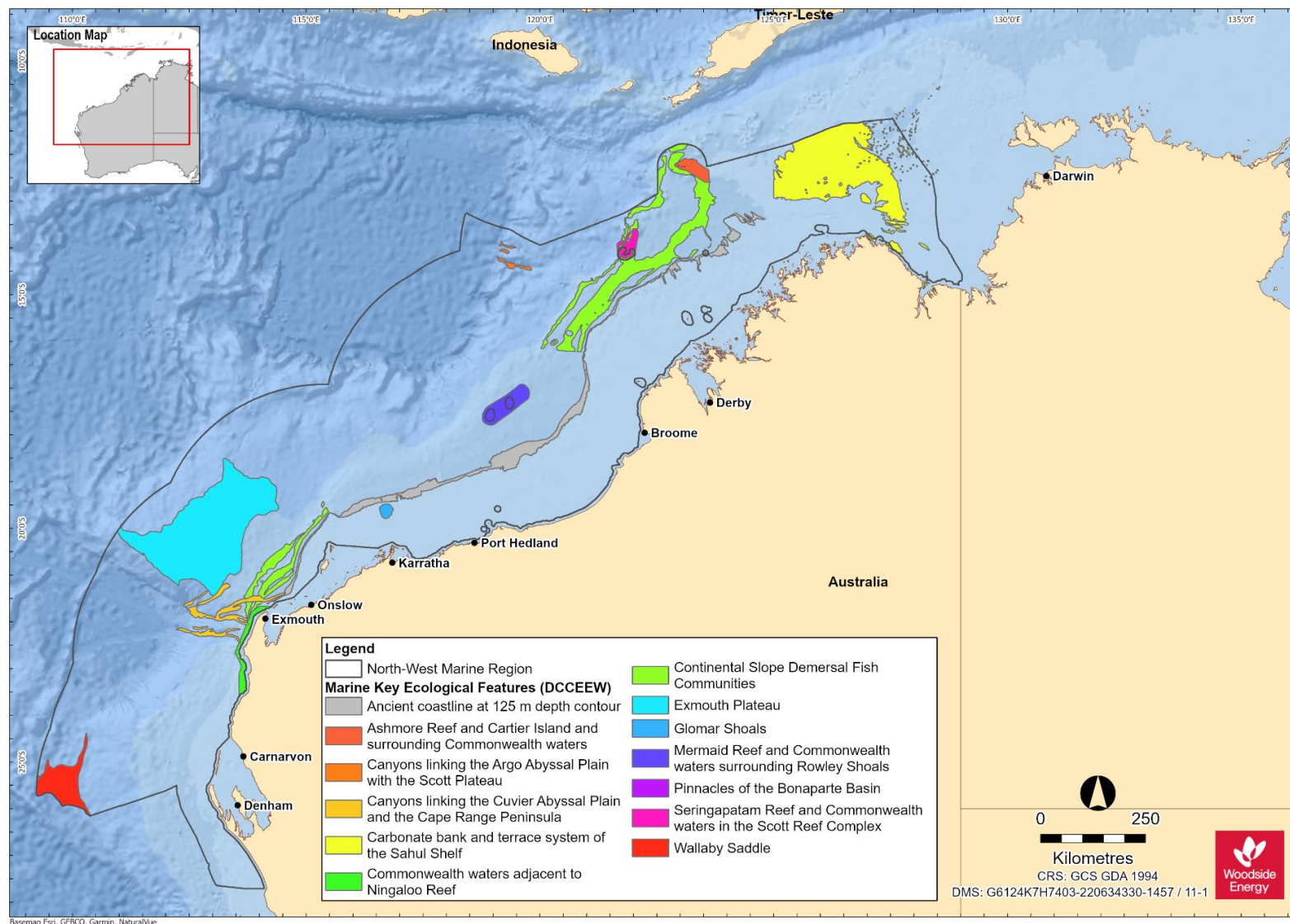


Figure 10-1: KEFs within the NWMR (data source: DCCEEW, 2024d)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 10-2: Key Ecological Features (KEFs) within the SWMR

KEF Name	Values ¹	Description
Albany Canyons group and adjacent shelf break	High productivity and aggregations of marine life, and unique seafloor feature with ecological properties of regional significance Both benthic and demersal habitats within the feature are of conservation value	The Albany Canyons group is thought to be associated with small, periodic subsurface upwelling events, which may drive localised regions of high productivity. The canyons are known to be a feeding area for sperm whale and sites of orange roughy aggregations. Anecdotal evidence also indicates that this area supports fish aggregations that attract large predatory fish and sharks.
Ancient coastline at 90-120 m depth	Relatively high productivity and aggregations of marine life, and high levels of biodiversity and endemism The feature creates topographic complexity, that may facilitate benthic biodiversity and enhanced biological productivity	Benthic biodiversity and productivity occur where the ancient coastline forms a prominent escarpment, such as in the western Great Australian Bight, where the sea floor is dominated by sponge communities of significant biodiversity and structural complexity.
Cape Mentelle upwelling	Facilitates nutrient upwelling, supporting high productivity and diverse aggregations of marine life	The Cape Mentelle upwelling draws relatively nutrient-rich water from the base of the Leeuwin Current, up the continental slope and onto the inner continental shelf, where it results in phytoplankton blooms at the surface. The phytoplankton blooms provide the basis for an extended food chain characterised by feeding aggregations of small pelagic fish, larger predatory fish, seabirds, dolphins and sharks.
Commonwealth marine environment surrounding the Houtman Abrolhos Islands (and adjacent shelf break)	High levels of biodiversity and endemism within benthic and pelagic habitats	The Houtman Abrolhos Islands and surrounding reefs support a unique mix of temperate and tropical species, resulting from the southward transport of species by the Leeuwin Current over thousands of years. The Houtman Abrolhos Islands are the largest seabird breeding station in the eastern Indian Ocean. They support more than one million pairs of breeding seabirds.
Commonwealth marine environment surrounding the Recherche Archipelago	Aggregations of marine life and high levels of biodiversity and endemism within benthic and demersal communities	The Recherche Archipelago is the most extensive area of reef in the SWMR. Its reef and seagrass habitat supports a high species diversity of warm temperate species, including 263 known species of fish, 347 known species of molluscs, 300 known species of sponges, and 242 known species of macroalgae. The islands also provide haul-out (resting areas) and breeding sites for Australian sea lions and New Zealand fur seals.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

KEF Name	Values ¹	Description
Commonwealth marine environment within and adjacent to the west-coast inshore lagoons	High productivity and aggregations of marine life within benthic and pelagic habitats Important for benthic productivity and recruitment for a range of marine species	These lagoons are important for benthic productivity, including macroalgae and seagrass communities, and breeding and nursery aggregations for many temperate and tropical marine species. They are important areas for the recruitment of commercially and recreationally important fish species. Extensive schools of migratory fish visit the area annually, including herring, garfish, tailor and Australian salmon.
Commonwealth marine environment within and adjacent to Geographe Bay	High productivity and aggregations of marine life, and high levels of biodiversity, recruitment within benthic and pelagic communities	Geographe Bay is known for its extensive beds of tropical and temperate seagrass that support a diversity of species, many of them not found anywhere else. The bay provides important nursery habitat for many species. Juvenile dusky whaler sharks use the shallow seagrass habitat as nursery grounds for several years, before ranging out to adult feeding grounds along the shelf break. The seagrass also provides valuable habitat for fish and invertebrates (Carruthers et al., 2007). It is also an important resting area for migratory humpback whales.
Diamantina Fracture Zone	Unique seafloor feature with ecological properties of regional significance which apply to its benthic and demersal habitats	The Diamantina Fracture Zone is a rugged, deep-water environment of seamounts and numerous closely spaced troughs and ridges. Very little is known about the ecology of this remote, deep-water feature, but marine experts suggest that its size and physical complexity mean that it is likely to support deep-water communities characterised by high species diversity, with many species found nowhere else.
Naturaliste Plateau	Unique seafloor feature with ecological properties of regional significance including high species diversity and endemism which apply to its benthic and demersal habitats	The Naturaliste Plateau is Australia's deepest temperate marginal plateau. The combination of its structural complexity, mixed water dynamics and relative isolation indicate that it supports deep-water communities with high species diversity and endemism.
Perth Canyon and adjacent shelf break, and other west-coast canyons	An area of higher productivity that attracts feeding aggregations of deep-diving mammals and large predatory fish. It is also recognised as a unique seafloor feature with ecological properties of regional significance	The Perth Canyon is the largest known undersea canyon in Australian waters. Deep ocean currents rise to the surface, creating a nutrient-rich cold-water habitat attracting feeding aggregations of deep-diving mammals, such as pygmy blue whales and large predatory fish that feed on aggregations of small fish, krill and squid.

KEF Name	Values ¹	Description
Western demersal slope and associated fish communities of the Central Western Province	Provides important habitat for demersal fish communities and supports species groups that are nationally or regionally important to biodiversity	The western demersal slope provides important habitat for demersal fish communities, with a high level of diversity and endemism. A diverse assemblage of demersal fish species below a depth of 400 m is dominated by relatively small benthic species such as grenadiers, dogfish and cucumber fish. Unlike other slope fish communities in Australia, many of these species display unique physical adaptations to feed on the sea floor (such as a mouth position adapted to bottom feeding), and many do not appear to migrate vertically in their daily feeding habits
Western rock lobster	A species that plays a regionally important ecological role	This species is the dominant large benthic invertebrate in the region. The lobster plays an important trophic role in many of the inshore ecosystems of the SWMR. Western rock lobsters are an important part of the food web on the inner shelf, particularly as juveniles.

¹Values description sourced from *Marine bioregional plan for the South-west Marine Region (DSEWPAC, 2012b)* and the *DAWE SPRAT database*.

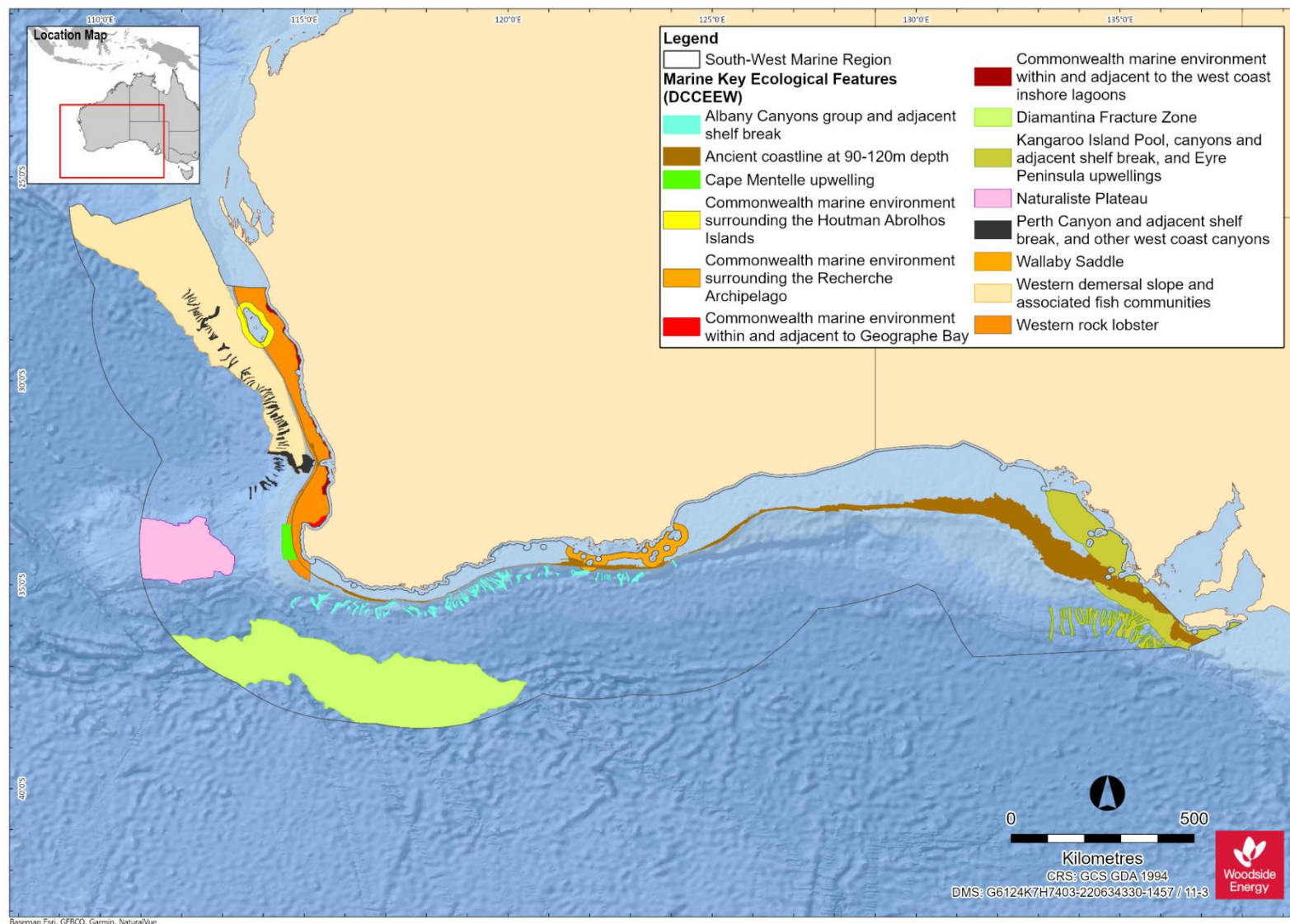


Figure 10-2: KEFs within the SWMR (data source: DCCEEW, 2024d)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 10-3: Key Ecological Features (KEFs) within the NMR

KEF Name	Values ¹	Description
Carbonate bank and terrace system of the Van Diemen Rise	Important for its role in enhancing biodiversity and local productivity relative to its surrounds and for supporting relatively high species diversity The feature has been identified as a sponge biodiversity hotspot (Przeslawski et al. 2014)	The bank and terrace system of the Van Diemen Rise is part of the larger system associated with the Sahul Banks to the north and Londonderry Rise to the east; it is characterised by terrace, banks, channels and valleys. The variability in water depth and substrate composition may contribute to the presence of unique ecosystems in the channels. Species present include sponges, soft corals and other sessile filter feeders associated with hard substrate sediments of the deep channels; epifauna and infauna include polychaetes and ascidians. Olive ridley turtles, sea snakes and sharks are also found associated with this feature.
Gulf of Carpentaria basin	Regional importance for biodiversity, endemism and aggregations of marine life relevant to benthic and pelagic habitats	The Gulf of Carpentaria basin is one of the few remaining near-pristine marine environments in the world. Primary productivity in the Gulf of Carpentaria basin is mainly driven by cyanobacteria that fix nitrogen but is also strongly influenced by seasonal processes. The soft sediments of the basin are characterised by moderately abundant and diverse communities of infauna and mobile epifauna dominated by polychaetes, crustaceans, molluscs, and echinoderms. The basin also supports assemblages of pelagic fish species including planktivorous and schooling fish, with top predators such as shark, snapper, tuna, and mackerel.
Gulf of Carpentaria coastal zone	High productivity, aggregations of marine life (including several endemic species) and high biodiversity compared to broader region	Nutrient inflow from rivers adjacent to the NMR generates higher productivity and more diverse and abundant biota within the Gulf of Carpentaria coastal zone than elsewhere in the region. The coastal zone is near pristine and supports many protected species such as marine turtles, dugongs, and sawfishes. Ecosystem processes and connectivity remain intact; river flows are mostly uninterrupted by artificial barriers and healthy, diverse estuarine and coastal ecosystems support many species that move between freshwater and saltwater environments.
Pinnacles of the Bonaparte Basin	Unique seafloor feature with ecological properties of regional significance Provide areas of hard substrate in an otherwise soft sediment environment and so are important for sessile species Recognised as a biodiversity hotspot for sponges The Pinnacles of the Bonaparte Basin KEF is located within both the NWMR and NMR (refer Table 10-1)	Covering more than 520 km ² within the Bonaparte Basin, this feature contains the largest concentration of pinnacles along the Australian margin. The Pinnacles of the Bonaparte Basin are thought to be the eroded remnants of underlying strata; it is likely that the vertical walls generate local upwelling of nutrient-rich water, leading to phytoplankton productivity that attracts aggregations of planktivorous and predatory fish, seabirds and foraging turtles.
Plateaux and saddle north-west of the Wellesley Islands	High species abundance, diversity and endemism of marine life	Abundance and species density are high in the plateaux and saddle as a result of increased biological productivity associated with habitats rather than currents. Submerged reefs support corals that are typical of northern Australia, including corals that have bleach-resistant zooxanthellae; and particular reef fish species that are different to those found elsewhere in the Gulf of Carpentaria. Species present include marine turtles and reef fish such as coral trout, cod, mackerel, and shark. Seabirds frequent the plateaux and saddle, most likely due to the presence of predictable food resources for feeding offspring.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

KEF Name	Values ¹	Description
Shelf break and slope of the Arafura Shelf	The shelf break and slope of the Arafura Shelf is defined as a key ecological feature for its ecological significance associated with productivity emanating from the slope. It also forms part of a unique biogeographic province (Last et al., 2005)	The shelf break and slope of the Arafura Shelf is characterised by continental slope and patch reefs and hard substrate pinnacles. The ecosystem processes of the feature are largely unknown in the region; however, the Indonesian Throughflow and surface wind-driven circulation are likely to influence nutrients, pelagic dispersal and species and biological productivity in the region. Biota associated with the feature is largely of Timor–Indonesian Malay affinity.
Submerged coral reefs of the Gulf of Carpentaria	High aggregations of marine life, biodiversity and endemism Twenty per cent of the reefs found in the NMR are situated within this KEF (Harris et al., 2007)	The submerged coral reefs of the Gulf of Carpentaria are characterised by submerged patch, platform and barrier reefs that form a broken margin around the perimeter of the Gulf of Carpentaria basin, rising from the sea floor at depths of 30–50 m. These reefs provide breeding and aggregation areas for many fish species including mackerel and snapper and offer refuges for sea snakes and apex predators such as sharks. Coral trout species that inhabit the submerged reefs are smaller than those found in the Great Barrier Reef and may prove to be an endemic sub-species.
Tributary Canyons of the Arafura Depression	High productivity and high levels of species diversity and endemism of marine life within the benthic and pelagic habitats of the feature	The tributary canyons are approximately 80–100 m deep and 20 km wide. The largest of the canyons extend some 400 km from Cape Wessel into the Arafura Depression, and are the remnants of a drowned river system that existed during the Pleistocene era. Sediments in this feature are mainly calcium-carbonate rich, although sediment type varies from sandy substrate to soft muddy sediments and hard, rocky substrate. Marine turtles, deep sea sponges, barnacles and stalked crinoids have all been identified in the area.

¹Values description sourced from *Marine bioregional plan for the North Marine Region (DSEWPAC, 2012c)* and *DAWE SPRAT database*.

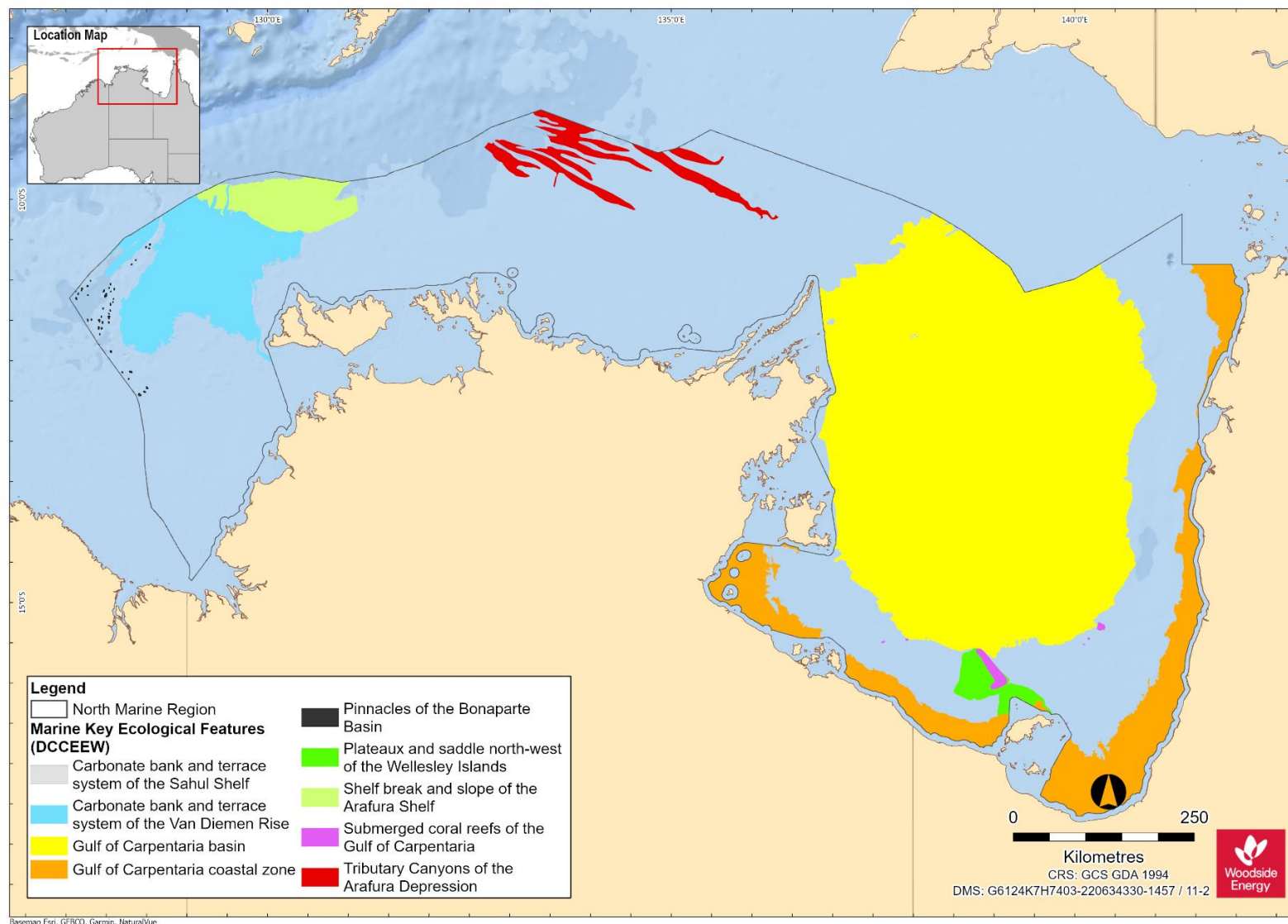


Figure 10-3: KEFs within the NMR (data source: DCCEEW, 2024d)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

11. PROTECTED AREAS

11.1 Regional Context

Protected areas include World Heritage Properties, National Heritage Places, Wetlands of International Importance, Australian Marine Parks, State Marine Parks and Reserves, Threatened Ecological Communities and the Australian Whale Sanctuary. The PMST Reports (Appendix A) show that there are 29 protected areas found in the NWMR, 18 in the SWMR and 9 in the NMR.

Australian Marine Parks are outlined in Table 11-1, Table 11-2, Table 11-3 and Table 11-4. All other protected areas of each of the marine regions NWMR, SWMR and NMR are outlined in Table 11-5, Table 11-6, Table 11-7 and Table 11-8 respectively.

11.2 World Heritage Properties

World Heritage listings are sites of outstanding universal value and meet at least 10 selection criteria, compiled of cultural and natural basis criteria. World Heritage listings classed as meeting outstanding natural criteria are discussed in this section and World Heritage sites classed as meeting outstanding cultural criteria are discussed in Section 12.

The list of Australia's World Heritage Properties and the PMST Reports (Appendix A) show two World Heritage Properties within the NWMR (Table 11-6), one World Heritage Property within the SWMR (Table 11-7), and though not reported in the NMR PMST Report, Kakadu National Park World Heritage Area is included in Table 11-8.

11.3 National and Commonwealth Heritage Places – Natural

The National Heritage List is Australia's list of natural, historic, and Indigenous places of outstanding significance to the nation. The National Heritage List Spatial Database describes the place name, class (Indigenous, natural, historic), and status. Commonwealth Heritage Places are a collection of sites recognised for their Indigenous, historical and/or natural values which are owned or controlled by the Australian Government.

Only National and Commonwealth Heritage Places classed as natural are discussed in this section. Heritage Places classed as Indigenous or historic are discussed in Section 12.

A search of the National Heritage List Spatial Database and the PMST Reports Appendix A identified three natural National Heritage Places in the NWMR (Table 11-6), one in the SWMR (Table 11-7) and for the NMR, Kakadu National Park (not included in the PMST report) is included in Table 11-8.

A search of the Commonwealth Heritage List identified six natural commonwealth heritage places within the NWMR (Table 11-8) and one within the SWMR (Table 11-7).

11.4 Wetlands of International Importance (listed under the Ramsar Convention)

Australia has 65 Ramsar wetlands that cover >8.3 million ha. Ramsar wetlands are those that are representative, rare, or unique wetlands, or that are important for conserving biological diversity.

The List of Wetlands of International Importance held under the Ramsar Convention and the PMST Reports (Appendix A) identified four Ramsar Sites with coastal features within the NWMR (Table 11-6), five in the SWMR (Table 11-7) and two for the Northern Territory, included for the NMR (not included in the PMST report) (Table 11-8).

11.5 Australian Marine Parks

Australian Marine Parks (AMPs), proclaimed under the EPBC Act in 2007 and 2013, are located in Commonwealth waters from the outer edge of State and Territory waters (3 NM) to the outer boundary of Australia's EEZ 200 NM from the shore.

PMST Reports (Appendix A) show 16 AMPs within the NWMR, 10 within the SWMR and eight within the NMR. These are displayed in Figure 11-1, Figure 11-2 and Figure 11-3, respectively.

The values of all marine parks identified in the North-West, South-West and North Marine Network management plans are described in Table 11-1, Table 11-3 and Table 11-4, respectively.

There are also two AMPs in the Indian Ocean territories. These are the Cocos (Keeling) Islands Marine Park and the Christmas Island Marine Park (Table 11-2, Figure 11-1) (Commonwealth of Australia, 2021).

11.5.1 North West Marine Parks Network

Table 11-1 describes Australian Marine Parks within the North West Marine Park Network, according to the North West Marine Parks Network Management Plan 2018 (DNP, 2018a).

Table 11-1: Summary of Commonwealth Australian Marine Parks (AMPs) in the North West Marine Park Network

North West Marine Park Network	IUCN Zones	Description and Values
Argo-Rowley Terrace Marine Park	National Park (II) Multiple Use (VI) Special Purpose Zone (Trawl) (VI)	Description The Argo–Rowley Terrace Marine Park is located approximately 270 km north-west of Broome, Western Australia, and extends to the limit of Australia’s exclusive economic zone. This AMP covers an area of 146,003 km² and water depths between 220 m and 6000 m, protecting ecological communities in the deep offshore region. The AMP provides connectivity between the Mermaid Reef Marine Park and WA Rowley Shoals Marine Park.
		Natural values The marine park includes ecosystems representative of: - Northwest Transition—an area of shelf break, continental slope, and the majority of the Argo Abyssal Plain. Key topographic features include Mermaid, Clerke and Imperieuse Reefs - Timor Province—an area dominated by warm, nutrient-poor waters. Canyons are an important feature in this area of the marine park and are generally associated with high productivity and aggregations of marine life. Key ecological features are: - canyons linking the Argo Abyssal Plain with the Scott Plateau - Mermaid Reef and Commonwealth waters surrounding Rowley Shoals. The marine park includes a range of seafloor features such as canyons on the slope between the Argo Abyssal Plain, Rowley Terrace and Scott Plateau. These are believed to be up to 50 million years old and are associated with small, periodic upwellings that results in localised higher levels of biological productivity. The marine park includes species listed under the EPBC Act. Biologically important areas within the marine park include resting and breeding habitat for seabirds and a migratory pathway for the pygmy blue whale.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. As noted in the North West Marine Park Management Plan, limited information regarding the cultural significance of this marine park is currently available (DNP, 2018a).
		Heritage values There are no international, Commonwealth or national heritage listings relevant to the Argo-Rowley Terrace Marine Park. The marine park contains two known shipwrecks listed under the <i>Historic Shipwrecks Act 1976</i>: <i>Alfred</i> (wrecked in 1908) and <i>Pelsart</i> (wrecked in 1908).

North West Marine Park Network	IUCN Zones	Description and Values
		Social and economic values Socio-economic values of this marine park include commercial fishing and mining.
Ashmore Reef Marine Park	Sanctuary (Ia) Recreational Use (IV)	Description The Ashmore Reef Marine Park is located approximately 630 km north of Broome and 110 km south of the Indonesian island of Roti. The marine park is located in Australia's External Territory of Ashmore and Cartier Islands. It is within an area subject to a Memorandum of Understanding (MoU) between Indonesia and Australia, known as the MoU Box. The marine park covers an area of 583 km ² and water depths from less than 15 m to 500 m.
		Natural values The Ashmore Reef Marine Park includes ecosystems representative of the Timor Province—a bioregion with a depth range from about 200 m near the shelf break to 5920 m over the Argo Abyssal Plain. Ashmore Reef is an important feature of the bioregion. There are two distinct demersal fish communities: one on the upper slope, the other mid slope. The marine environment includes two extensive lagoons, sand flats, shifting sand cays, extensive reef flat and large areas of seagrass. The reef ecosystems are comprised of hard and soft corals, gorgonians, sponges and a range of encrusting organisms, with the highest number of coral species of any reef off the Western Australian coast. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within the marine park include breeding, foraging and resting habitat for seabirds, resting and foraging habitat for migratory shorebirds, foraging, mating, nesting and internesting habitat for marine turtles, foraging habitat for dugong, and a migratory pathway for pygmy blue whales. The Ashmore Reef Ramsar site includes the largest of the atolls in the region. West Island, Middle Island and East Island represent the only vegetated islands in the region. The site supports internationally significant populations of seabirds and shorebirds, is important for turtles (green, hawksbill and loggerhead) and dugong, and has the highest diversity of hermatypic (reef-building) corals on the West Australian coast. It is known for its abundance and diversity of sea snakes, although populations at Ashmore Reef have been in decline since 1998. Key ecological features are: • Ashmore Reef and Cartier Island and surrounding Commonwealth waters • continental slope demersal fish communities—an area of high-diversity demersal fish assemblages.
		Cultural values Sea country is valued for Indigenous Australians cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. As noted in the North West Marine Park Management Plan, there is limited information about the cultural significance of this marine park (DNP, 2018a). This marine park is valued in Indonesian culture as it contains Indonesian artefacts and grave sites. Ashmore lagoon is still accessed as a rest or staging area for traditional Indonesian fishers travelling to and from fishing grounds within the MoU Box.

North West Marine Park Network	IUCN Zones	Description and Values
		Heritage values Ashmore Reef is a Commonwealth Heritage listed site, meeting criteria A, B and C.
		Social and economic values Tourism, recreation and scientific research are important activities in this marine park.
Carnarvon Canyon Marine Park	Habitat Protection (IV)	Description The Carnarvon Canyon Marine Park is located approximately 300 km north-west of Carnarvon. It covers an area of 6177 km ² and a water depth range of 1500–6000 m.
		Natural values This marine park includes ecosystems representative of the Central Western Transition—a bioregion characterised by large areas of continental slope, a range of topographic features such as terraces, rises and canyons, seasonal and sporadic upwelling, and benthic slope communities. It includes the Carnarvon Canyon, a single-channel canyon covering the entire depth range of this marine park. Ecosystems of this marine park are influenced by tropical and temperate currents, deep-water environments and proximity to the continental slope and shelf. The soft-bottom environment at the base of the Carnarvon Canyon is likely to support deep seafloor species (e.g. holothurians, polychaetes and sea-pens). This marine park supports a range of species listed under the EPBC Act.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years.
		Heritage values No international, Commonwealth or national heritage listings apply to the marine park.
		Social and economic values Commercial fishing is an important activity in the marine park.
Cartier Island Marine Park	Sanctuary (Ia)	Description The Cartier Island Marine Park is located approximately 45 km south-east of Ashmore Reef Marine Park and 610 km north of Broome, Western Australia. Both marine parks are in Australia's External Territory of Ashmore and Cartier Islands and are also within an area subject to a Memorandum of Understanding (MoU) between Indonesia and Australia, known as the MoU Box. The Cartier Island Marine Park covers an area of 172 km ² and water depths from less than 15 m to 500 m.

North West Marine Park Network	IUCN Zones	Description and Values
		Natural values This marine park includes ecosystems representative of the Timor Province—a bioregion with a depth range from about 200 m near the shelf break to 5,920 m over the Argo Abyssal Plain. The reefs and islands of this bioregion are regarded as biodiversity hotspots. Key ecological features are: • Ashmore Reef and Cartier Island and surrounding Commonwealth waters • continental slope demersal fish communities. There are two distinct demersal fish communities of the continental slope: one on the upper slope, the other mid slope. This marine park includes an unvegetated sand island (Cartier Island), mature reef flat, a small, submerged pinnacle (Wave Governor Bank), and two shallow pools to the north-east of the island. It is also an area of high diversity and abundance of hard and soft corals, gorgonians (sea fans), sponges and a range of encrusting organisms. The reef crests are generally algal dominated, while the reef flats feature ridges of coral rubble and large areas of seagrass. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding and foraging habitat for seabirds, internesting, nesting and foraging habitat for marine turtles and foraging habitat for whale sharks. This marine park is internationally significant for its abundance and diversity of sea snakes. Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. As noted in the North-west Marine Park Management Plan, there is limited information about the cultural significance of this marine park (DNP, 2018a). Heritage values This marine park contains one known shipwreck listed under the <i>Historic Shipwrecks Act 1976</i>: the <i>Ann Millicent</i> (wrecked in 1888). No international or national heritage listings apply to this marine park. Social and economic values Scientific research is an important activity in this marine park.
Dampier Marine Park	National Park (II) Habitat Protection (IV) Multiple Use (VI)	Description The Dampier Marine Park is located approximately 10 km North-east of Cape Lambert and 40 km from Dampier, extending from the Western Australian state water boundary. This marine park covers an area of 1252 km² and a water depth range between less than 15 m and 70 m.

North West Marine Park Network	IUCN Zones	Description and Values
		Natural values This marine park includes ecosystems representative of the Northwest Shelf Province—a dynamic environment influenced by strong tides, cyclonic storms, long-period swells and internal tides. The bioregion includes diverse benthic and pelagic fish communities, and ancient coastline thought to be an important seafloor feature and migratory pathway for humpback whales. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding and foraging habitat for seabirds, interbreeding habitat for marine turtles and a migratory pathway for humpback whales. Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Ngarluma, Yindjibarndi, Yaburara, and Mardudhunera people have responsibilities for sea country in this marine park. The native title holders for these people are represented by the Ngarluma Aboriginal Corporation and Yindjibarndi Aboriginal Corporation. These Prescribed Bodies Corporate represent traditional owners with native title over coastal areas adjacent to this marine park. The Yamatji Marlpa Aboriginal Corporation is the Native Title Representative Body for the Pilbara and Yamatji regions. Heritage values No international, Commonwealth or national listings apply to this marine park, however the marine park is approximately 10 km north of the Dampier Archipelago (including Burrup Peninsula) national heritage listing, which has significant Indigenous heritage values including rock art sites. Social and economic values Port activities, commercial fishing and recreation, including fishing, are important activities in this marine park.
Eighty Mile Beach Marine Park	Multiple Use (VI)	Description The Eighty Mile Beach Marine Park is located approximately 74 km north-east of Port Hedland, adjacent to the Western Australian Eighty Mile Beach Marine Park. This marine park covers an area of 10,785 km² and water depth ranges between less than 15 m and 70 m. Natural values This Marine Park includes examples of ecosystems representative of the Northwest Shelf Province—a dynamic environment influenced by strong tides, cyclonic storms, long-period swells and internal tides. The bioregion includes diverse benthic and pelagic fish communities, and ancient coastline thought to be an important seafloor feature and migratory pathway for humpback whales. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding, foraging and resting habitat for seabirds, interbreeding and nesting habitat for marine turtles, foraging, nursing and pupping habitat for sawfish and a migratory pathway for humpback whales.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

North West Marine Park Network	IUCN Zones	Description and Values
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The sea country of the Nyangumarta, Karajarri and Ngarla people extends into the Eighty Mile Beach Marine Park. Sea country is culturally significant and important to their identity. They have an unbroken, deep spiritual connection to their sea country, with traditional practices continuing today. Staple foods of living cultural value for the Nyangumarta, Karajarri and Ngarla people include saltwater fish, turtles, dugong, crabs and oysters. Access to sea country by families is important for cultural traditions, livelihoods and future socio-economic development opportunities. The native title holders for the Nyangumarta, Karajarri and Ngarla people are represented by the Karajarri Aboriginal Corporation, Nyangumarta Karajarri Aboriginal Corporation, Nyangumarta Warrarn Aboriginal Corporation, and Wanparta Aboriginal Corporation. These Prescribed Body Corporates represent traditional owners with native title over coastal area adjacent to the marine park. They are the points of contact for their respective areas of responsibility for sea country in the marine park. The Kimberley Land Council and the Yamatji Marlpa Aboriginal Corporation are the Native Title Representative Bodies for Kimberley and Pilbara regions. Heritage values This marine park contains three known shipwrecks listed under the Historic Shipwrecks Act 1976: <i>Lorna Doone</i> (wrecked in 1923), <i>Nellie</i> (wrecked in 1908), and <i>Tifera</i> (wrecked in 1923). No international, Commonwealth or national listings apply to the marine park. Social and economic values Tourism, commercial fishing, pearling and recreation are important activities in this marine park.
Gascoyne Marine Park	National Park (II) Habitat Protection (IV) Multiple Use (VI)	Description The Gascoyne Marine Park is located approximately 20 km off the west coast of the Cape Range Peninsula, adjacent to the Ningaloo Reef Marine Park and the Western Australian Ningaloo Marine Park and extends to the limit of Australia's exclusive economic zone. This marine park covers an area of 81,766 km² and water depth varies between 15 m and 6000 m.

North West Marine Park Network	IUCN Zones	Description and Values
		Natural values This marine park includes ecosystems representative of: • Central Western Shelf Transition—continental shelf with water depths up to 100 m, and a significant transition zone between tropical and temperate species • Central Western Transition—characterised by large areas of continental slope, a range of topographic features such as terraces, rises and canyons, seasonal and sporadic upwelling, benthic slope communities comprising tropical and temperate species • Northwest Province—an area of continental slope comprising diverse and endemic fish communities. Key ecological features are: • canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula • Commonwealth waters adjacent to Ningaloo Reef • continental slope demersal fish communities • Exmouth Plateau. Ecosystems represented in this Marine Park are influenced by the interaction of the Leeuwin Current, Leeuwin Undercurrent and the Ningaloo Current. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding habitat for seabirds, interbreeding habitat for marine turtles, a migratory pathway for humpback whales, and foraging habitat and migratory pathway for pygmy blue whales. Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Gnulli people have responsibilities for sea country in this marine park. The Yamatji Marlpa Aboriginal Corporation is the Native Title Representative Body for the Yamatji region.

North West Marine Park Network	IUCN Zones	Description and Values
		Heritage values <i>World heritage</i> The Ningaloo Coast was listed as an area of outstanding universal value under the World Heritage Convention in 2011, meeting world heritage listing criteria vii and x. The Ningaloo Coast World Heritage Property is adjacent to the marine park. <i>Commonwealth heritage</i> The Ningaloo Marine Area (Commonwealth waters) meets the Commonwealth heritage listing criteria A, B and C. The Ningaloo Marine Area is adjacent to the marine park. <i>National heritage</i> The Ningaloo Coast meets the national heritage listing criteria A, B, C, D, and F and is adjacent to the marine park. <i>Historic shipwrecks</i> The marine park contains more than five known shipwrecks listed under the Historic Shipwrecks Act 1976. Social and economic values Commercial fishing, mining and recreation are important activities in this marine park.
Kimberley Marine Park	Habitat Protection (IV) National Park (II) Multiple Use (VI)	Description The Kimberley Marine Park is located approximately 100 km north of Broome, extending from the Western Australian state water boundary north from the Lacepede Islands to the Holothuria Banks offshore from Cape Bougainville. This marine park is adjacent to the Western Australian Lalanggarram/Camden Sound Marine Park and the North Kimberley Marine Park. This marine park covers an area of 74,469 km² and water depths from less than 15 m to 800 m.

North West Marine Park Network	IUCN Zones	Description and Values
		Natural Values This marine park includes ecosystems representative of: • Northwest Shelf Province—a dynamic environment influenced by strong tides, cyclonic storms, long-period swells and internal tides. The bioregion includes diverse benthic and pelagic fish communities, and an ancient coastline thought to be an important seafloor feature and migratory pathway for humpback whales. • Northwest Shelf Transition—straddles the North-west and North Marine Regions and in the Northwest includes shelf break, continental slope, and the majority of the Argo Abyssal Plain and is subject to a high incidence of cyclones. Benthic biological communities in the deeper parts of the bioregion have not been extensively studied, although high levels of species diversity and endemism occur among demersal fish communities on the continental slope. • Timor Province—water depths (of the bioregion) ranging from about 200 m near the shelf break to 5920 m over the Argo Abyssal Plain. The reefs and islands of the bioregion are regarded as biodiversity hotspots. Endemism in demersal fish communities of the continental slope is high; two distinct communities have been identified on the upper and mid slopes. Key ecological features are: • ancient coastline at the 125 m depth contour • continental slope demersal fish communities. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding and foraging habitat for seabirds, internesting and nesting habitat for marine turtles, breeding, calving and foraging habitat for inshore dolphins, calving, migratory pathway and nursing habitat for humpback whales, migratory pathway for pygmy blue whales, foraging habitat for dugong and foraging habitat for whale sharks.

North West Marine Park Network	IUCN Zones	Description and Values
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Wunambal Gaambera, Dambimangari, Mayala, Bardi Jawi and the Nyul Nyul people's sea country extends into the Kimberley Marine Park. The Wunambal Gaambera people's country includes daagu (deep waters), with about 3400 km² of their sea country located in this marine park. The Wunambal Gaambera, Dambimangari, Mayala, Bardi Jawi and the Nyul Nyul people have an unbroken connection to their sea country, having deep spiritual connection through Wunggurr (creator snakes) that still live in the sea. Staple foods of living cultural value include saltwater fish, turtles, dugong, crabs and oysters. Access to sea country by families is important for cultural traditions, livelihoods and future socio-economic development opportunities. The national heritage listing for the West Kimberley recognises the following key cultural heritage values: • Wanjina Wunggurr Cultural Tradition which incorporates many sea country cultural sites • log-raft maritime tradition, which involved using tides and currents to access warrurru (reefs) far offshore to fish • interactions with Makassan traders around sea foods over hundreds of years • important pearl resources that were used in traditional trade through the wunan and in contemporary commercial agreements. The Wunambal Gaambera, Dambimangari and Bardi Jawi people consider that these values extend into the Kimberley Marine Park. The Wanjina Wunggurr is law of the Wunambal Gaambera and Dambimangari people and it is recognised that all of the sea country, land, plants and animals were put there by Wanjina Wunggurr. Under Wanjina Wunggurr law, the Wunambal Gaambera and Dambimangari people have a responsibility to manage country, to maintain the health of the country and all living things. The Wunambal Gaambera, Bardi Jawi, Mayala and the Nyul Nyul people have had native title determined over parts of their sea country included in this marine park. The native title holders for these people are represented by the Wunambal Gaambera Aboriginal Corporation, Bardi and Jawi Niimidiman Aboriginal Corporation and the Kimberley Land Council. These representative bodies are the points of contact for their respective areas of sea country for this marine park. The Kimberley Land Council is the Native Title Representative Body for the Kimberley region. Heritage values This Marine Park contains more than 40 known shipwrecks listed under the Historic Shipwrecks Act 1976. No international, Commonwealth or national heritage listings apply to the marine park, however the marine park is adjacent to the national heritage place of the West Kimberley. Social and economic values Tourism, commercial fishing, mining, recreation, including fishing and traditional use, are important activities in this marine park.

North West Marine Park Network	IUCN Zones	Description and Values
Mermaid Reef Marine Park	National Park (II)	Description The Mermaid Reef Marine Park is located approximately 280 km North-west of Broome, adjacent to the Argo–Rowley Terrace Marine Park and approximately 13 km from the Western Australian Rowley Shoals Marine Park. This marine park covers an area of 540 km² and water depths from less than 15 m to 500 m. Mermaid Reef is one of three reefs forming the Rowley Shoals. The reefs of the Rowley Shoals are significant as they are considered ecological stepping stones for reef species originating in Indonesian/Western Pacific waters, are one of a few offshore reef systems on the NWS, and may also provide an upstream source for recruitment to reefs further south.
		Natural values This marine park includes examples of ecosystems representative of the Northwest Transition—an area of shelf break, continental slope, and the majority of the Argo Abyssal Plain. Together with Clerke Reef and Imperieuse Reef, Mermaid Reef is a biodiversity hotspot and key topographic feature of the Argo Abyssal Plain. A key ecological feature of this marine park is the Mermaid Reef and Commonwealth waters surrounding the Rowley Shoals. Ecosystems of this marine park are associated with emergent reef flat, deep reef flat, lagoon, and submerged sand habitats. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding habitat for seabirds and a migratory pathway for the pygmy blue whale.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. As noted in the North-west Marine Park Management Plan, there is limited information about the cultural significance of this marine park (DNP, 2018a).
		Heritage values No international or national listings apply to this marine park. Mermaid Reef–Rowley Shoals was established on the Commonwealth Heritage List in 2004, meeting Commonwealth heritage listing criteria A, B, C and D. This marine park contains one known shipwreck listed under the Historic Shipwrecks Act 1976: <i>Lively</i> (wrecked in 1810).
		Social and economic values Tourism, recreation, and scientific research are important activities in this marine park.
Montebello Marine Park	Multiple Use (VI)	Description The Montebello Marine Park is located offshore of Barrow Island and 80 km west of Dampier extending from the Western Australian State water boundary, and is adjacent to the Western Australian Barrow Island and Montebello Islands marine parks. This marine park covers an area of 3413 km² and water depths from less than 15 m to 150 m.

North West Marine Park Network	IUCN Zones	Description and Values
		Natural values This marine park includes examples of ecosystems representative of the Northwest Shelf Province—a dynamic environment influenced by strong tides, cyclonic storms, long-period swells and internal tides. The bioregion includes diverse benthic and pelagic fish communities. A key ecological feature of this Marine Park is the ancient coastline at the 125 m depth contour. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding habitat for seabirds, internesting, foraging, mating, and nesting habitat for marine turtles, a migratory pathway for humpback whales and foraging habitat for whale sharks.
		Cultural values The Yamatji Marlpa Aboriginal Corporation is the Native Title Representative Body for the Pilbara region. Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. As noted in the North-west Marine Park Management Plan, there is limited information about the cultural significance of this marine park (DNP, 2018a).
		Heritage values No international, Commonwealth or national listings apply to this marine park, however this Marine Park is adjacent to the Western Australia Barrow Island and the Montebello–Barrow Island Marine Conservation Reserves which have been nominated for national heritage listing. This marine park contains two known shipwrecks listed under the Historic Shipwrecks Act 1976: <i>Trial</i> (wrecked in 1622), the earliest known shipwreck in Australian waters and <i>Tanami</i> (unknown date).
		Social and economic values Tourism, commercial fishing, mining and recreation are important activities in this marine park.
Ningaloo Marine Park	National Park (II) Recreational Use (IV)	Description The Ningaloo Marine Park stretches approximately 300 km along the west coast of the Cape Range Peninsula, and is adjacent to the Western Australian Ningaloo Marine Park and Gascoyne Marine Park. This marine park covers an area of 2435 km² and a water depth range of 30 m to more than 500 m. This marine park provides connectivity between deeper offshore waters of the shelf break and coastal waters of the adjacent Western Australian Ningaloo Marine Park. It includes some of the most diverse continental slope habitats in Australia, including the continental slope area between North-west Cape and the Montebello Trough. Canyons in this marine park are important for sustaining the nutrient conditions that support the high diversity of Ningaloo Reef.

North West Marine Park Network	IUCN Zones	Description and Values
		Natural values This marine park includes examples of ecosystems representative of: • Central Western Shelf Transition—continental shelf of water depths up to 100 m, and a significant transition zone between tropical and temperate species • Central Western Transition—characterised by large areas of continental slope, a range of topographic features such as terraces, rises and canyons, seasonal and sporadic upwelling, and benthic slope communities comprising tropical and temperate species • Northwest Province—an area of continental slope comprising diverse and endemic fish communities • Northwest Shelf Province—a dynamic environment, influenced by strong tides, cyclonic storms, long-period swells and internal tides. The bioregion includes diverse benthic and pelagic fish communities, and ancient coastline thought to be an important seafloor feature and migratory pathway for humpback whales. Key ecological features are: • canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula • Commonwealth waters adjacent to Ningaloo Reef • continental slope demersal fish communities. Ecosystems represented in this marine park are influenced by interaction of the Leeuwin Current, Leeuwin Undercurrent and the Ningaloo Current. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding and/or foraging habitat for seabirds, internesting habitat for marine turtles, a migratory pathway for humpback whales, foraging habitat and migratory pathway for pygmy blue whales, breeding, calving, foraging and nursing habitat for dugong and foraging habitat for whale sharks. Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Gnulli people have responsibilities for sea country in this marine park. The Yamatji Marpa Aboriginal Corporation is the Native Title Representative Body for the Yamatji region.

North West Marine Park Network	IUCN Zones	Description and Values
		Heritage values <i>World heritage</i> This marine park is within the Ningaloo Coast World Heritage Property, meeting world heritage listing criteria vii and x. The area is valued for high terrestrial species endemism, marine species diversity and abundance, and the interconnectedness of large-scale marine, coastal and terrestrial environments. The area connects the limestone karst system and fossil reefs of the ancient Cape Range to the nearshore reef system of Ningaloo Reef, to the continental slope and shelf in Commonwealth waters. <i>National heritage</i> The Ningaloo Coast overlaps this marine park, meeting the national heritage listing criteria A, B, C, D, and F. <i>Commonwealth heritage</i> The Ningaloo Marine Area (Commonwealth waters) meets Commonwealth heritage listing criteria A, B and C. The Ningaloo Marine Area overlaps this marine park. <i>Historic shipwrecks</i> This marine park contains more than 15 known shipwrecks listed under the Historic Shipwrecks Act 1976. Social and economic values Tourism and recreation, including fishing, are important activities in this marine park.
Roebuck Marine Park	Multiple Use (VI)	Description The Roebuck Marine Park is located approximately 12 km offshore of Broome and is adjacent to the Western Australian Yawuru Nagulagun/Roebuck Bay Marine Park. This marine park covers an area of 304 km² and a water depth range of less than 15 m to 70 m. This marine park is adjacent to the Roebuck Bay Ramsar site, recognised as one of the most important areas for migratory shorebirds in Australia; and the Western Australian Yawuru Nagulagun/Roebuck Bay Marine Park, providing connectivity between offshore and inshore coastal waters of Roebuck Bay. Natural values This marine park includes examples of ecosystems representative of the Northwest Shelf Province—a dynamic environment influenced by strong tides, cyclonic storms, long-period swells and internal tides. The bioregion includes diverse benthic and pelagic fish communities, and ancient coastline thought to be an important seafloor feature and migratory pathway for humpback whales. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding and resting habitat for seabirds, foraging and internesting habitat for marine turtles, a migratory pathway for humpback whales and foraging habitat for dugong.

North West Marine Park Network	IUCN Zones	Description and Values
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. Yawuru people have always recognised the waters of Roebuck Bay as nagula (Yawuru sea country), and have customary responsibilities to care for it. They have a deep spiritual connection to offshore landscapes from Bugarrigarra (creator beings), and believe that snake-like metaphysical beings inhabit the sea. Cultural sites in sea country are also a source of law. The Yawuru people harvest marine resources according to the six Yawuru seasons. They have harvested pearl shell for food and cultural purposes. Fish are a staple food source, and fishing a form of cultural expression, connecting people to their country, modelled on tradition and based in traditional law. Access to sea country by families is important to cultural traditions, livelihoods and future socio-economic development opportunities. The Yawuru Native Title Holders Aboriginal Corporation is the Prescribed Body Corporate representing traditional owners with native title over coastal areas adjacent to this marine park, and is the point of contact for sea country in this marine park. The Kimberley Land Council is the Native Title Representative Body for the Kimberley region. Heritage values No international, Commonwealth or national listings apply to the marine park, however it is adjacent to the West Kimberley National Heritage Place. Social and economic values Tourism, commercial fishing, pearling and recreation, including fishing, are important activities that occur in the marine park.
Shark Bay Marine Park	Multiple Use (VI)	Description The Shark Bay Marine Park is located approximately 60 km offshore of Carnarvon, adjacent to the Shark Bay world heritage property and national heritage place. This marine park covers an area of 7443 km², extending from the Western Australian State water boundary, and a water depth range between 15 m and 220 m.

North West Marine Park Network	IUCN Zones	Description and Values
		Natural values This Marine Park includes examples of ecosystems representative of: • Central Western Shelf—a predominantly flat, sandy and low-nutrient area, in water depths 50–100 m. The bioregion is a transitional zone between tropical and temperate species • Central Western Transition—characterised by large areas of continental slope, a range of topographic features such as terraces, rises and canyons, seasonal and sporadic upwelling, and benthic slope communities comprising tropical and temperate species. Ecosystems represented in this marine park are influenced by the Leeuwin, Ningaloo and Capes currents. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding habitat for seabirds, internesting habitat for marine turtles, and a migratory pathway for humpback whales. This marine park and adjacent coastal areas are also important for shallow-water snapper.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Gnulli and Malgana people have responsibilities for sea country in this marine park. The Yamatji Marlpa Aboriginal Corporation is the Native Title Representative Body for the Yamatji region.
		Heritage values No international, Commonwealth or national heritage listings apply to this Marine Park, but this marine park is adjacent to the Shark Bay, Western Australia World Heritage Property and Shark Bay, Western Australia National Heritage Place. The marine park contains approximately 20 known shipwrecks listed under the Historic Shipwrecks Act 1976.
		Social and economic values Tourism, commercial fishing, mining and recreation, including fishing, are important activities in the marine park.

11.5.2 Indian Ocean Territory

Table 11-2 describes the values of the Indian Ocean territory Australian Marine Parks (Commonwealth of Australia, 2021).

Table 11-2: Summary of Commonwealth marine parks within Indian Ocean territories

Indian Ocean Territory Marine Park	IUCN Zones	Values
Christmas Island Marine Park	National Park (II) Habitat Protection (IV)	Description Christmas Island Marine Park covers an area of 277,016 km ² and extends from the island's shoreline to the limit of Australia's exclusive economic zone, approximately 200 NM from shore (except to the north of Christmas Island). This marine park adjoins the marine boundary of Christmas Island National Park, which extends 50 m seaward from the island. Almost all the island's port is excluded from this marine park, except for a very small and narrow part of the port's western boundary.
		Natural values The tropical waters and fringing coral reefs that surround Christmas Island contain a mix of coral reef species from both the Indian and Pacific Oceans and over 680 species of fish have been recorded in the region. The overlap of these waters gives rise to varieties of hybrid marine fish and some endemic species. Christmas Island also has the world's greatest diversity and abundance of land crabs. The island's waters are essential for the crabs, as they migrate to the coast to breed and release their eggs into the ocean. This marine park contains a range of unique seafloor features, habitats and species, particularly seamounts and deep-sea plains. Biologically important areas include foraging areas for the endemic Abbott's booby, Christmas Island frigatebird and golden bosun and other seabirds that nest on Christmas Island, as well as whale shark feeding areas and southern bluefin tuna breeding habitat.
		Cultural values The ocean is a centrepiece of life for many community members, of Christmas Island including those of Malay and Chinese heritage who maintain strong cultural traditions and connections to the surrounding marine environment.
		Social and economic values This marine park is valued for fishing (commercial, recreational and subsistence), diving, snorkelling and tourism. There is potential for scientific study and educational activities.
Cocos (Keeling) Islands Marine Park	National Park (II) Habitat Protection (IV)	Description Cocos (Keeling) Islands are located around 2,750 km north-west of Perth and the Cocos (Keeling) Islands Marine Park covers a 467,054 km ² area, extending from most of the islands' shoreline to the limit of the Australian exclusive economic zone, approximately 100 NM from shore. The Cocos (Keeling) Islands are a group of 27 tropical low-lying coral islands.

Indian Ocean Territory Marine Park	IUCN Zones	Values
		Natural values The central lagoon system and outer reefs are two of the islands' important habitats. The lagoon encompasses a variety of unique and distinct habitats. This includes seagrass, which is essential for the resident green turtle population (which is a genetically distinct stock that is unique to the islands) as well as for sustaining fish populations. The outer reef habitats are dominated by hard and soft corals and have a high abundance and diversity of reef fish and other species. The offshore waters contain a range of unique seafloor features, habitats, and species, particularly seamounts, deep-sea plains, and a significant deep-sea ridgeline. This marine park also protects the foraging habitat of nesting seabirds on North Keeling Island (Pulu Keeling National Park), as well as species such as dolphins, deep-sea fish and sharks that are or may be threatened elsewhere in the region.
		Cultural values Most of the islands' community members are Cocos Malay, who maintain vibrant and unique cultural traditions including strong cultural connections to the surrounding marine environment. The lagoon and ocean are an important part of life for all community members living on the remote atoll.
		Social and economic values This marine park is valued for recreational and subsistence activities (i.e., fishing, boating, diving, snorkelling, kite surfing, and kayaking), tourism, scientific research, and educational activities.

11.5.3 South-west Marine Parks Network

Table 11-3 describes the Australian Marine Parks within the South-west Marine Parks Network (South-west Network), according to the South West Marine Parks Network Management Plan 2018 (DNP, 2018b).

Table 11-3: Summary of Commonwealth AMPs for the South West Marine Park Network

South West Marine Park Network	IUCN Zones	Natural Values
Abrolhos Marine Park	National Park (II) Habitat Protection (IV) Multiple Use (VI) Special Purpose Zone (Trawl) (VI)	Description The Abrolhos Marine Park is located adjacent to the Western Australian Houtman Abrolhos Islands, covering a large offshore area extending from the Western Australian State water boundary to the edge of Australia's exclusive economic zone. It is located approximately 27 km south-west of Geraldton and extends north to approximately 330 km west of Carnarvon. The northernmost part of the shelf component of the marine park, north of Kalbarri, is adjacent to the Shark Bay World Heritage Area. This marine park covers an area of 88,060 km² and a water depth range between less than 15 m and 6000 m.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

South West Marine Park Network	IUCN Zones	Natural Values
		Natural values This marine park includes ecosystems representative of: • Central Western Province—characterised by a narrow continental slope incised by many submarine canyons and the most extensive area of continental rise in any of Australia's marine regions. A significant feature within the area are several eddies that form off the Leeuwin Current at predictable locations, including west of the Houtman Abrolhos Islands. • Central Western Shelf Province— a predominantly flat, sandy and low nutrient area, in water depths between 50 and 100 m. Significant seafloor features of this area include a deep hole and associated area of banks and shoals offshore of Kalbarri. The area is a transitional zone between tropical and temperate species. • Central Western Transition—a deep ocean area characterised by large areas of continental slope, a range of significant seafloor features including the Wallaby Saddle, seasonal and sporadic upwelling, and benthic slope communities comprising tropical and temperate species. • South-west Shelf Transition—a narrow continental shelf that is noted for its physical complexity. The Leeuwin Current has a significant influence on the biodiversity of this nearshore area as it pushes subtropical water southward along the area's western edge. The area contains a diversity of tropical and temperate marine life including a large number of endemic fauna species. Key ecological features are: • Commonwealth marine environment surrounding the Houtman Abrolhos Islands • demersal slope and associated fish communities of the Central Western Province • mesoscale eddies • Perth Canyon and adjacent shelf break, and other west-coast canyons • western rock lobster • ancient coastline between 90 m and 120 m depth • Wallaby Saddle. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging and breeding habitat for seabirds, foraging habitat for Australian sea lions and white sharks, and a migratory pathway for humpback and pygmy blue whales. The marine park is adjacent to the northernmost Australian sea lion breeding colony in Australia on the Houtman Abrolhos Islands.

South West Marine Park Network	IUCN Zones	Natural Values
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Nanda and Naaguja People have responsibilities for sea country in this marine park. Traditional owners have strong stories that connect ocean and land. Artefacts from ancestors are abundant on islands in the adjacent State marine park. The Yamatji Marpa Aboriginal Corporation is the Native Title Representative Body for the Yamatji region.
		Heritage values No international heritage listings apply to this marine park, however this marine park is adjacent to the Western Australian Shark Bay World Heritage Property, listed as an area of outstanding universal value under the World Heritage Convention in 1991, meeting world heritage listing criteria vii, viii, ix, and x. No Commonwealth or national heritage listings apply to this marine park, however this marine park is adjacent to the Western Australian Shark Bay National Heritage Place. This marine park contains 11 known shipwrecks listed under the Historic Shipwrecks Act 1976. The <i>Zuytdorp</i> (wrecked in 1712) historic shipwreck protected zone lies in State waters adjacent to the northernmost part of the shelf component of the marine park, north of Kalbarri. The <i>HMAS Sydney II</i> and <i>HSK Kormoran</i> Shipwreck Sites (1941) lie at 2,500 m depth about 75 km east of the northern part of the marine park. This site is on the National Heritage List and a historic shipwreck protected zone. The <i>Batavia</i> (wrecked on the adjacent Abrolhos Islands in 1629) Shipwreck Site and Survivor Camps Area are on the National Heritage List.
		Social and economic values Tourism, commercial fishing, mining, recreation including fishing, are important activities in the marine park.
Bremer Marine Park	National Park Zone (II) Special Purpose Zone (Mining Exclusion) (VI)	Description The Bremer Marine Park is located approximately half-way between Albany and Esperance, offshore from the Fitzgerald River National Park, extending from the Western Australian State water boundary. This marine park covers an area of 4472 km² and water depths from 15 m to 5000 m.

South West Marine Park Network	IUCN Zones	Natural Values
		Natural values This marine park includes examples of ecosystems representative of: • Southern Province—includes the deepest ocean areas of the Australian exclusive economic zone, reaching depths of around 5900 m, and is characterised by a long continental slope incised by numerous, well-developed submarine canyons • South-west Shelf Province—marine life in this area is very diverse and likely influenced by the warm waters of the Leeuwin Current. The sheltered bays along the south coast are important southern right whale calving areas. Key ecological features are: • Albany Canyon group and adjacent shelf break • ancient coastline between 90 m and 120 m depth. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds, Australian sea lions, and white sharks, a migratory pathway for humpback whales, and a significant calving area for southern right whales. This marine park includes canyons—important aggregation areas for killer whales. Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Noongar people have responsibilities for sea country in this Marine Park. Local traditional owners recognise Kaart, Koort and Waarnginy (head, heart and talking) as bringing together the narratives and protocols that have been practiced for thousands of years and the kinship that influences all stages and cycles of life. Traditional owners have responsibility for cultural values and are focussed on the creation and regeneration of spiritual, ethical, cultural and practical benefits and opportunities for marine systems. The South West Aboriginal Land and Sea Council is the Native Title Service Provider for the South-west region. Heritage values No international, Commonwealth or national heritage listings apply to this marine park. Social and economic values Tourism, commercial fishing and recreation, including fishing, are important activities in this marine park.
Eastern Recherche Marine Park	National Park Zone (II) Special Purpose Zone (VI)	Description The Eastern Recherche Marine Park is located approximately 135 km east of Esperance, adjacent to the Recherche Archipelago, close to the Western Australian Cape Arid National Park. This marine park covers an area of 20,575 km², extending from the Western Australia State water boundary to the edge of Australia's exclusive economic zone, and a water depth range from less than 15 m to 6000 m.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

South West Marine Park Network	IUCN Zones	Natural Values
		Natural values This marine park includes ecosystems representative of: • South-west Shelf Province—marine life in this area is very diverse and likely influenced by the warm waters of the Leeuwin Current. It includes globally important biodiversity hotspots, such as the waters surrounding the Recherche Archipelago. • Southern Province—includes the deepest ocean areas of the Australian exclusive economic zone, reaching depths of around 5,900 m, and is characterised by a long continental slope, numerous, well-developed submarine canyons, and extensive mid-slope terraces. • Great Australian Bight Shelf Transition—a vast and shallow area characterised by an extensive area of flat continental shelf. The invertebrate communities that inhabit the seafloor are among the most diverse in the world. The inshore areas of the bioregion are globally important for threatened southern right whale and the Australian sea lion. Key ecological features are: • mesoscale eddies • ancient coastline between 90 m and 120 m depth • Commonwealth marine environment surrounding the Recherche Archipelago. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds, Australian sea lions and white sharks, and a calving buffer area for southern right whales. Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Ngadju and Esperance Nyungar people have responsibilities for sea country in this marine park. Local traditional owners recognise Kaart, Koort and Waarnginy (head, heart and talking) as bringing together the narratives and protocols that have been practiced for thousands of years and the kinship that influences all stages and cycles of life. Traditional owners have responsibility for cultural values and are focussed on the creation and regeneration of spiritual, ethical, cultural and practical benefits and opportunities for marine systems. The South West Aboriginal Land and Sea Council is the Native Title Service Provider for the South-west region. Heritage values No international, Commonwealth or national heritage listings apply to this marine park. This marine park contains two known shipwrecks listed under the Historic Shipwrecks Act 1976—<i>Rodondo</i> (wrecked in 1894) and <i>Start</i> (wrecked in 1879). Social and economic values Tourism, commercial fishing, mining and recreation, including fishing, are important activities in this marine park.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

South West Marine Park Network	IUCN Zones	Natural Values
Geographe Marine Park	National Park Zone (II) Habitat Protection (IV) Multiple Use (VI) Special Purpose (Mining Exclusion Zone) (VI)	Description The Geographe Marine Park is located in Geographe Bay, approximately 8 km west of Bunbury and 8 km north of Busselton, adjacent to the Western Australian Ngari Capes Marine Park. This marine park covers an area of 977 km ² , extending from the Western Australian State water boundary, and a water depth range between 15 m and 70 m.
		Natural values This marine park includes examples of ecosystems representative of the South-west Shelf Province—an area of diverse marine life, influenced by the warm waters of the Leeuwin Current. The bioregion includes globally important biodiversity hotspots, such as the waters off Geographe Bay. Key ecological features are: • Commonwealth marine environment within and adjacent to Geographe Bay • western rock lobster. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds, a migratory pathway for humpback and pygmy blue whales, and a calving buffer area for southern right whales.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Noongar people have responsibility for sea country in this marine park. Traditional owners have maintained cultural responsibilities for sea country as passed down from elders, to keep the oceans healthy, to support spiritual wellbeing and to uphold and protect obligatory cultural responsibilities for future generations. The South West Aboriginal Land and Sea Council is the Native Title Service Provider for the South-west region.
		Heritage values No international, Commonwealth or national heritage listings apply to this marine park. This marine park contains eight known shipwrecks listed under the Historic Shipwrecks Act 1976.
		Social and economic values Tourism, commercial fishing and recreation, including fishing, are important activities in the marine park.

South West Marine Park Network	IUCN Zones	Natural Values
Great Australian Bight Marine Park	National Park Zone (II) Multiple Use Zone (VI) Special Purpose Zone (Mining Exclusion) (VI) Special Purpose Zone (VI)	Description The Great Australian Bight Marine Park is located approximately 12 km south-east of Eucla and 174 km west of Ceduna, adjacent to the South Australian Far West Coast and Nuyts Archipelago marine parks. This marine park covers an area of 45,822 km², extending from South Australian State water boundary to the edge of Australia's exclusive economic zone, and a water depth range between less than 15 m and 6000 m.
		Natural values This marine park includes examples of ecosystems representative of: - Great Australian Bight Shelf Transition—a vast and shallow area, characterised by an extensive area of flat continental shelf. The invertebrate communities that inhabit the seafloor are among the most diverse in the world. The inshore areas of the bioregion are globally important for the threatened southern right whale and the Australian sea lion. - Southern Province—includes the deepest ocean areas of the Australian exclusive economic zone, reaching depths of around 5,900 m, and that is characterised by a long continental slope, numerous, well-developed submarine canyons, and extensive mid-slope terraces such as the Ceduna Terrace. Key ecological features are: - ancient coastline between 90 m and 120 m depth - benthic invertebrate communities of the eastern Great Australian Bight - small pelagic fish of the South-west Marine Region. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds, Australian sea lions, white sharks and pygmy blue and sperm whales, and a calving area, migratory pathway and large aggregation area for southern right whales.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Mirning and Wirangu people have responsibilities for sea country in this marine park. The far west coast region of South Australia includes over 1000 km of coastline along the Nullarbor Cliffs of the Great Australian Bight and the Nuyts Archipelago, and supports a sea-based tradition and culture. The Mirning people have a strong connection to land and sea country of the Nullarbor, and the Wirangu people have a strong connection to land and sea country across the remainder of the far west coastal region. Fishing is woven into the beliefs and values of this region, through the use of resources such as shellfish, periwinkles, abalone and razorfish; and the sharing of traditional fishing knowledge, catch and meals. The care and protection of these waters, the coastline, marine life and resources correspond directly with cultural stories, sites and knowledge. South Australian Native Title Services is the native title service provider for the South Australian region.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

South West Marine Park Network	IUCN Zones	Natural Values
		Heritage values No international, Commonwealth or national heritage listings apply to this marine park.
		Social and economic values Tourism, commercial fishing, and mining are important activities in this marine park.
Jurien Marine Park	National Park Zone (II) Special Purpose (VI)	Description The Jurien Marine Park is located approximately 148 km north of Perth and 155 km south of Geraldton, adjacent to the Western Australian Jurien Bay Marine Park. This marine park covers an area of 1,851 km² of continental shelf, extending from the Western Australian State water boundary, and a water depth range between 15 m and 220 m.
		Natural values This marine park includes ecosystems representative of: • South-west Shelf Transition—consists of a narrow continental shelf that is noted for its physical complexity. The Leeuwin Current has a significant influence on the biodiversity of this nearshore area as it pushes subtropical water southward along the bioregion’s western edge. The area contains a diversity of tropical and temperate marine life including a large number of endemic fauna species. • Central Western Province—this Marine Park includes a small component of this bioregion, characterised by a narrow continental slope and influenced by the Leeuwin Current. Key ecological features are: • ancient coastline between 90 m and 120 m depth • demersal slope and associated fish communities of the Central Western Province • western rock lobster. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds, Australian sea lions and white sharks, and a migratory pathway for humpback and pygmy blue whales.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Noongar people have responsibilities for sea country in this marine park. Traditional owners have strong stories that connect ocean and land. Artefacts from ancestors are abundant on islands in the adjacent State marine park. The South West Aboriginal Land and Sea Council is the Native Title Service Provider for the South-west region.

South West Marine Park Network	IUCN Zones	Natural Values
		Heritage values No international, Commonwealth or national heritage listings apply to this marine park. This marine park contains two known shipwrecks listed under the Historic Shipwrecks Act 1976— <i>SS Cambewarra</i> (wrecked in 1914) and <i>Oleander</i> (wrecked in 1884).
		Social and economic values Tourism, commercial fishing, mining and recreation, including fishing, are important activities in this marine park.
Murat Marine Park	National Park Zone (II)	Description The Murat Marine Park is located 86 km off the west coast south-west of Ceduna, south of the South Australian Nuyts Archipelago Marine Park. This marine park covers an area of 938 km² and is relatively shallow, with water depths between less than 15 m and 70 m.
		Natural values This marine park includes examples of ecosystems representative of the Great Australian Bight Shelf Transition—a vast and shallow area characterised by an extensive area of flat continental shelf. The invertebrate communities that inhabit the seafloor are among the most diverse in the world. The inshore areas of the bioregion are globally important for the threatened southern right whale and the Australian sea lion. Key ecological features are: • benthic invertebrate communities of the eastern Great Australian Bight • small pelagic fish of the South-west Marine Region. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds and Australian sea lions.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Mirning people have a strong attachment to land and sea country of the Nullarbor, while the Wirangu people have a strong attachment to land and sea country across the remainder of the far west coast region. The care and protection of the waters, coastline, marine creatures, marine environments and sea resources correspond directly with cultural stories and important cultural sites and knowledge. South Australian Native Title Services is the native title service provider for the South Australian region.
		Heritage values No international, Commonwealth or national heritage listings apply to this marine park.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

South West Marine Park Network	IUCN Zones	Natural Values
		Social and economic values The remoteness of this marine park makes access difficult with most recreational and tourism activities confined to State waters. Commercial ships may pass through this Marine Park to and from the port of Ceduna.
Perth Canyon Marine Park	National Park (II) Habitat Protection (IV) Multiple Use (VI)	Description The Perth Canyon Marine Park is located approximately 52 km west of Perth and approximately 19 km west of Rottnest Island. This marine park covers an area of 7409 km² and water depths range between 120 m and 5000 m. Natural values This marine park includes examples of ecosystems representative of: • Central Western Province—characterised by a narrow continental slope incised by many submarine canyons, including Perth Canyon, and the most extensive area of continental rise in any of Australia's marine regions. A significant feature within the area are several eddies that form off the Leeuwin Current at predictable locations, including the Perth Canyon. • South-west Shelf Province—marine life in this area is diverse and influenced by the warm waters of the Leeuwin Current. • South-west Transition—significant features of this area include the submarine canyons that incise the northern parts of the slope and the deep-water mixing that results from the dynamics of major ocean currents when these meet the seafloor, particularly in the Perth Canyon. • South-west Shelf Transition—consists of a narrow continental shelf that is noted for its physical complexity. The Leeuwin Current has a significant influence on the biodiversity of this nearshore area as it pushes subtropical water southward along the area's western edge. The area contains a diversity of tropical and temperate marine life including many endemic fauna species. Key ecological features are: • Perth Canyon and adjacent shelf break, and other west-coast canyons • demersal slope and associated fish communities of the Central Western Province • western rock lobster • mesoscale eddies. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds, Antarctic blue, pygmy blue and sperm whales, a migratory pathway for humpback, Antarctic blue and pygmy blue whales, and a calving buffer area for southern right whales.

South West Marine Park Network	IUCN Zones	Natural Values
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Swan River traditional owners have responsibilities for sea country in this marine park. Traditional owners have maintained cultural responsibilities for sea country as passed down from elders, to keep the oceans healthy, to support spiritual wellbeing and to uphold and protect obligatory cultural responsibilities for future generations. The South West Aboriginal Land and Sea Council is the Native Title Service Provider for the South-west region. Heritage values No international, Commonwealth or national heritage listings apply to this marine park. Social and economic values Tourism, commercial shipping, commercial fishing, recreation, including fishing, and defence training are important activities in this marine park.
Southern Kangaroo Island Marine Park	Special Purpose Zone (Mining Exclusion) (VI)	Description The Southern Kangaroo Island Marine Park is located approximately 140 km south-west of Adelaide, adjacent to the South Australian Kangaroo Island Marine Park. This marine park covers an area of 630 km² extending from the South Australian State water boundary, and water depth ranges between 15 m and 100 m. Natural values The marine park includes examples of ecosystems representative of the Spencer Gulf Shelf. Seasonal winds and ocean currents interact with seafloor features to produce small seasonal upwellings that are important for biological productivity. The area is noted for its diverse seafloor communities, productivity hotspots and aggregations of marine life associated with seasonal upwellings of nutrient-rich water. A key ecological feature of this marine park is the Kangaroo Island Pool, canyons and adjacent shelf break, and Eyre Peninsula upwellings. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds, Australian sea lions and white sharks and a calving buffer area for southern right whales. Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. South Australian Native Title Services is the Native Title Service Provider for the South Australian region. Heritage values No international, Commonwealth or national heritage listings apply to this marine park.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

South West Marine Park Network	IUCN Zones	Natural Values
		Social and economic values Tourism, commercial fishing and recreation are important activities in this marine park. The Kangaroo Island community values the island's unique qualities and character.
South-west Corner Marine Park	National Park (II) Habitat Protection (IV) Multiple Use (VI) Special Purpose (VI) Special Purpose (Mining Exclusion)	Description The South-west Corner Marine Park is located adjacent to the Western Australian Ngari Capes Marine Park, covering an extensive offshore area that is closest to Western Australia State waters approximately 48 km west of Esperance, 73 km west of Albany and 68 km west of Bunbury, and extends to the edge of Australia's exclusive economic zone. This marine park covers an area of 271,833 km² and a water depth range from less than 15 m to 6400 m. Natural values This marine park includes ecosystems representative of: • Southern Province—includes the deepest ocean areas of the Australian exclusive economic zone, reaching depths of around 5,900 m, and is characterised by a long continental slope incised by numerous, well-developed submarine canyons and the Diamantina Fracture Zone, a rugged area of deep seafloor comprising seamounts and many ridges and troughs. • South-west Transition—the main features of this area are the Naturaliste Plateau, the deepest submarine plateau along Australia's continental margins. The Naturaliste Plateau supports rich and diverse biological communities. Deep-water mixing results from the dynamics of major ocean currents when these meet the seafloor. • South-west Shelf Province—marine life in this area is diverse and influenced by the warm waters of the Leeuwin Current. A small upwelling of nutrient-rich water off Cape Mentelle during summer increases productivity locally, attracting aggregations of marine life. Key ecological features are: • Albany Canyon group and adjacent shelf break • Cape Mentelle upwelling • Diamantina Fracture Zone • Naturaliste Plateau • western rock lobster • ancient coastline between 90 m and 120 m depth. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds, Australian sea lions, white sharks and sperm whales, a migratory pathway for Antarctic blue, pygmy blue and humpback whales, and a calving buffer area for southern right whales.

South West Marine Park Network	IUCN Zones	Natural Values
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Nyungar/Noongar people have responsibilities for sea country in this marine park. Traditional owners have maintained cultural responsibilities for sea country as passed down from elders, to keep the oceans healthy, to support spiritual wellbeing and to uphold and protect obligatory cultural responsibilities for future generations. The South West Aboriginal Land and Sea Council is the Native Title Service Provider for the South-west region. Heritage values No international, Commonwealth or national heritage listings apply to the marine park. This marine park contains 10 known shipwrecks listed under the Historic Shipwrecks Act 1976. Social and economic values Tourism, commercial fishing, commercial shipping, and recreation, including fishing, are important activities in this marine park.
Twilight Marine Park	National Park Zone (II) Special Purpose Zone (Mining Exclusion) (VI)	Description The Twilight Marine Park is located approximately 245 km south-west of Eucla and 373 km north-east of Esperance, adjacent to the Western Australian State water boundary. This marine park covers an area of 4641 km² and water depths between less than 15 m and 70 m. Natural values This marine park includes ecosystems representative of the Great Australian Bight Shelf Transition—a vast and shallow area characterised by an extensive area of flat continental shelf. There are diverse invertebrate communities inhabiting the seafloor. The inshore areas of the bioregion are globally important for the threatened southern right whale and the Australian sea lion. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds, Australian sea lions and white sharks, and a calving buffer area for southern right whales. Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Mirning and Spinifex people have responsibilities for sea country in this marine park. Local traditional owners recognise Kaart, Koort and Waarnginy (head, heart and talking) as bringing together the narratives and protocols that have been practiced for thousands of years and the kinship that influences all stages and cycles of life. Traditional owners have responsibility for cultural values and are focussed on the creation and regeneration of spiritual, ethical, cultural and practical benefits and opportunities for marine systems. The Goldfields Land and Sea Council is the Native Title Representative Body for the Goldfields region.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

South West Marine Park Network	IUCN Zones	Natural Values
		Heritage values No international, Commonwealth or national heritage listings apply to this marine park. Social and economic values Tourism and commercial and recreational fishing are important activities in this marine park.
Two Rocks Marine Park	Multiple Use (VI)	Description The Two Rocks Marine Park is located approximately 25 km north-west of Perth, to the north-west of the Western Australian Marmion Marine Park. The marine park covers an area of 882 km², extending from the Western Australian State water boundary, and a water depth range from 15 m to 120 m. Natural values This marine park includes examples of ecosystems representative of the South-west Shelf Transition—an area of narrow continental shelf that is noted for its physical complexity. The Leeuwin Current has a significant influence on the biodiversity of this nearshore area as it pushes subtropical water southward along the area's western edge. The area contains a diversity of tropical and temperate marine life including endemic fauna species. The inshore lagoons are thought to be important areas for benthic productivity and recruitment for marine species. Key ecological features are: • Commonwealth marine environment within and adjacent to the west-coast inshore lagoons • western rock lobster • ancient coastline between 90 m and 120 m depth. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds and Australian sea lions, a migratory pathway for humpback and pygmy blue whales, and a calving buffer area for southern right whales. Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Swan River traditional owners have responsibilities for sea country in this marine park. Traditional owners have maintained cultural responsibilities for sea country as passed down from elders, to keep the oceans healthy, to support spiritual wellbeing and to uphold and protect obligatory cultural responsibilities for future generations. The South West Aboriginal Land and Sea Council is the Native Title Service Provider for the South-west region. Heritage values No international, Commonwealth or national heritage listings apply to this marine park.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

South West Marine Park Network	IUCN Zones	Natural Values
		Social and economic values Tourism, commercial fishing, recreation, including fishing, and scientific research are important activities in this marine park.
Western Eyre Marine Park	National Park Zone (II) Multiple Use Zone (VI) Special Purpose Zone (VI) Special Purpose Zone (Trawl) (VI)	Description The Western Eyre Marine Park is located approximately 123 km² south-west of Port Lincoln and 28 km west of Streaky Bay, adjacent to South Australia's Investigator, West Coast Bays and Nuyts Archipelago marine parks. This marine park covers an area of 57,944 km², extending from the South Australian State water boundary to the edge of Australia's exclusive economic zone, and water depths range between 15 m and more than 6000 m. Natural values This marine park includes ecosystems representative of: • Spencer Gulf Shelf—seasonal winds and ocean currents interact with seafloor features to produce a number of small seasonal upwellings that are important for biological productivity. The area is noted for its very diverse seafloor communities, productivity hotspots and aggregations of marine life associated with seasonal upwellings of nutrient- rich water. • Great Australian Bight Shelf Transition—a vast and shallow area, characterised by an extensive area of flat continental shelf. The invertebrate communities that inhabit the seafloor are among the most diverse in the world. The inshore areas of the bioregion are globally important for the threatened southern right whale and the Australian sea lion. • Southern Province—includes the deepest ocean areas of the Australian exclusive economic zone, reaching depths of around 5,900 m, and is characterised by a long continental slope; numerous, well-developed submarine canyons; and extensive mid-slope terraces such as the Ceduna Terrace. Key ecological features are: • ancient coastline between 90 m and 120 m depth • Kangaroo Island Pool, canyons and adjacent shelf break, and Eyre Peninsula upwellings • mesoscale eddies • benthic invertebrate communities of the eastern Great Australian Bight • small pelagic fish of the South-west Marine Region. This marine park provides connectivity between deeper offshore waters and the adjacent South Australian Investigator, West Coast Bays and Nuyts Archipelago Marine Parks. Waters surrounding the Nuyts Archipelago and Investigator Group form part of the ecologically important offshore islands that protect the coastline. This marine park is a hotspot for productivity, with feeding aggregations of marine mammals, sharks and seabirds. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding and foraging habitat for seabirds, foraging habitat for Australian sea lions, white sharks and pygmy blue and sperm whales, and a calving buffer area for southern right whales.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

South West Marine Park Network	IUCN Zones	Natural Values
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The far west coast region of South Australia includes over 1000 km of coastline along the Nullarbor Cliffs of the Great Australian Bight and the Nyuts Archipelago, and supports a sea-based tradition and culture. The Mirning people have a strong connection to land and sea country of the Nullarbor, and the Wirangu people have a strong connection to land and sea country across the remainder of the far west coastal region. Fishing is woven into the beliefs and values of this region, through the use of resources such as shellfish, periwinkles, abalone and razorfish; and the sharing of traditional fishing knowledge, catch and meals. The care and protection of these waters, the coastline, marine life and resources correspond directly with cultural stories, sites and knowledge. South Australian Native Title Services is the Native Title Service Provider for the South Australian region. Heritage values No international, Commonwealth or national heritage listings apply to this marine park. Social and economic values Tourism, commercial fishing, recreation and mining are important activities in this marine park.
Western Kangaroo Island Marine Park	National Park Zone (II) Special Purpose Zone (Mining Exclusion) (VI) Special Purpose Zone (VI)	Description The Western Kangaroo Island Marine Park is located approximately 230 km south-west of Adelaide and 110 km south of Port Lincoln, adjacent to the South Australian Western Kangaroo Island Marine Park. The marine park covers an area of 2335 km² and water depths range between 15 m and 165 m. Natural values This marine park includes examples of ecosystems representative of the Spencer Gulf Shelf. Seasonal winds and ocean currents interact with seafloor features to produce a number of small seasonal upwellings that are important for biological productivity. The area is noted for its diverse seafloor communities, productivity hotspots and aggregations of marine life associated with the seasonal upwellings of nutrient rich water. Key ecological features are: - the ancient coastline between 90 m and 120 m depth - Kangaroo Island Pool, canyons and adjacent shelf break, and Eyre Peninsula upwellings. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat for seabirds, Australian sea lions, white sharks and pygmy blue and sperm whales, and a calving buffer area for southern right whales.

South West Marine Park Network	IUCN Zones	Natural Values
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. South Australian Native Title Services is the Native Title Service Provider for the South Australian region.
		Heritage values No international, Commonwealth or national heritage listings apply to this marine park.
		Social and economic values Tourism, commercial fishing and recreation are important activities in this marine park. The Kangaroo Island community values the island's unique qualities and character.

11.5.4 North Marine Park Network

Table 11-4 describes the Commonwealth marine parks within the North Marine Park Network according to the North Marine Park Network Management Plan 2018 (DNP, 2018c).

Table 11-4: Summary of Commonwealth AMPs for the North Marine Park Network

North Marine Park Network	IUCN Zones	Values
Arafura Marine Park	Multiple Use Zone (VI) Special Purpose Zone (VI)	Description The Arafura Marine Park is located approximately 256 km north-east of Darwin and 8 km offshore of Croker Island, Northern Territory. It extends from Northern Territory waters to the limit of Australia's exclusive economic zone. This marine park covers an area of 22,924 km ² , and a water depth range from less than 15 m to 500 m.

North Marine Park Network	IUCN Zones	Values
	Special Purpose Zone (Trawl) (VI)	Natural values The Arafura Marine Park includes examples of ecosystems representative of: - Northern Shelf Province—a dynamic region, with gently sloping shelf topped with a number of pinnacles at depths ranging from 5 m to 30 m. Tidal eddies induce localised upwellings and hotspots of productivity, which correspond with aggregations of marine life within this Marine Park. - Timor Transition Province—includes continental slope, canyons, ridges, terraces and the Arafura Depression. The primary drivers of biological productivity are associated with deep water upwellings at canyon heads, driven by strong tides. The key ecological feature in this marine park is the tributary canyons of the Arafura Depression. The canyons channel deep ocean waters, enhancing productivity and supporting large predatory fish, whale sharks, sawfish and marine turtles, deep sea sponges, and barnacles. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include interesting habitat for marine turtles and important foraging and breeding habitat for seabirds.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Yuwurrumu members of the Mandilarri-Ildugij, the Mangalara, the Murran, the Gadura-Minaga and the Ngaynjaharr clans have responsibilities for sea country in this marine park. These clans have native title determined over part of their sea country, which is included in this marine park. The Northern Land Council is the Native Title Representative Body for the Northern Territory's northern region and is assisting these native title holders in the absence of a native title Prescribed Body Corporate. It is the point of contact for this marine park.
		Heritage values No international, Commonwealth or national heritage listings apply to this marine park.
		Social and economic values Commercial fishing, tourism, and recreation, including fishing, are important activities in this marine park.
Arnhem Marine Park	Special Purpose Zone (VI)	Description The Arnhem Marine Park is located approximately 100 km south-east of Croker Island and 60 km south-east of the Arafura Marine Park. It extends from Northern Territory waters surrounding the Goulburn Islands, to the waters north of Maningrida. This marine park covers an area of 7125 km² and water depth ranges from less than 15 m to 70 m.

North Marine Park Network	IUCN Zones	Values
		Natural values This marine park includes ecosystems representative of the Northern Shelf Province. Internal currents in the region drive a net clockwise movement of nutrient-rich coastal water contributing to high biological diversity. Tidal eddies induce localised upwellings and hotspots of productivity that correspond with aggregations of marine life within this marine park. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging habitat and a migratory pathway for marine turtles and seabirds.
Gulf of Carpentaria Marine Park	National Park Zone (II) Special Purpose Zone (Trawl) (VI)	Description The Gulf of Carpentaria Marine Park is located approximately 90 km north-west of Karumba, Queensland and is adjacent to the Wellesley Islands in the south of the Gulf of Carpentaria basin. This Marine Park covers an area of 23,771 km² and water depths range from less than 15 m to 70 m.
		Natural values This marine park includes ecosystems representative of the Northern Shelf Province—a dynamic region with a gently sloping shelf topped with a number of pinnacles at depths ranging from 5 m to 30 m. Tidal eddies induce localised upwellings and hotspots of productivity that correspond with aggregations of marine life within the marine park. Key ecological features are: • Gulf of Carpentaria basin • Gulf of Carpentaria coastal zone • plateaux and saddle north-west of the Wellesley Islands • submerged coral reefs of the Gulf of Carpentaria. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding and foraging areas for seabirds and internesting and foraging areas for turtles.

North Marine Park Network	IUCN Zones	Values
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Lardil, Yangkaal, Kaiadlit and Gangalidda people of the Wellesley Islands have a continuing spiritual connection with their sea country and responsibilities for managing that country. They have had their native title rights recognised. Both the Thuwathu-Bujimulla Indigenous Protected Area (IPA) and the Wellesely Island Sea Claim determination extend over part of the Gulf of Carpentaria Marine Park. The Thuwathu-Bujimulla IPA includes 160 sites of cultural heritage significance and the largest collection of stone fish traps in the southern hemisphere. The Lardil, Yangkaal, Kaiadlit and Gangalidda people of the Wellesley Islands hold a wealth of cultural knowledge about their islands and sea country. They recognise the presence of the Rainbow Serpent (Thuwathu or Bujimulla) in cyclones, waterspouts and rainbows, and understand that the Rainbow Serpent has the power to cause a special type of sickness known as Markiriil in Lardil. They also consider that there are dangerous places on their country where spirits can do you harm if you are not accompanied by the right people for that area. Many prominent marine features, such as reefs, rocks, oyster banks or sand bars have their own specific names. Among these named sites are special 'story places', where significant events happened in the past, where people carry out ritual activities to maintain particular animal or plant species, or which are responsible for making tidal floods, cyclones or strong winds. The Lardil people, as the traditional owners of Mornington Island and surrounding sea country, are recognised as the people of the Wellesley Islands with the authority to speak for sea country within the Gulf of Carpentaria Marine Park. The Gulf Region Aboriginal Corporation Prescribed Body Corporate represents the Lardil, Yangkaal, Kaiadlit and Gangalidda native title holders of the Wellesley Islands and is the point of contact for this Marine Park. The Carpentaria Land Council Aboriginal Corporation is the Native Title Representative Body for the region. Heritage values This marine park contains four known shipwrecks listed under the Historic Shipwrecks Act 1976—<i>Douglas Mawson</i> (wrecked in 1923); <i>A.D.C.</i> (wrecked in 1886); <i>Wild Duck</i> (wrecked in 1876); and <i>Ada</i> (wrecked 1886). No international, Commonwealth or national heritage listings apply to this marine park. Social and economic values Commercial fishing, tourism, and recreation, including fishing, are important activities in this marine park.
Limmen Marine Park	Habitat Protection Zone (IV)	Description The Limmen Marine Park is located approximately 315 km south-west of Nhulunbuy, Northern Territory, in the south-west of the Gulf of Carpentaria. It extends from Northern Territory waters, between the Sir Edward Pellew Group of Islands and Maria Island in the Limmen Bight, adjacent to the Northern Territory Limmen Bight Marine Park. This marine park covers an area of 1399 km² and water depths range from less than 15 m to 70 m.

North Marine Park Network	IUCN Zones	Values
		Natural values This marine park includes examples of ecosystems representative of the Northern Shelf Province—a dynamic region with gently sloping shelf, topped with a number of pinnacles at depths ranging from 5 m to 30 m. Tidal eddies induce localised upwellings and hotspots of productivity that correspond with aggregations of marine life within this marine park. The key ecological feature in this marine park is the Gulf of Carpentaria coastal zone—nutrients from rivers flowing into the coastal zone support high productivity and diverse biota. A prominent seafloor feature within this marine park is the Labyrinthian Shoals, a group of sand banks, some with rocky heads, in depths of less than 1.8 m. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include interesting and foraging habitat for marine turtles.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Marra people have responsibilities for sea country in this marine park, and share song-lines that travel through this Marine Park with the Yanyuwa People. The Northern Land Council is the Native Title Representative Body for the Northern Territory's northern region.
		Heritage values No international, Commonwealth or national heritage listings apply to this marine park.
		Social and economic values Commercial fishing, tourism, and recreation, including fishing, are important activities in this marine park.
Wessel Marine Park	Habitat Protection Zone (IV) Special Purpose Zone (Trawl) (VI)	Description The Wessel Marine Park is located approximately 22 km east of Nhulunbuy, Northern Territory. It extends from Northern Territory waters adjacent to the tip of the Wessel Islands to Northern Territory waters adjacent to Cape Arnhem. This marine park covers an area of 5908 km² and water depths between 15 m and 70 m.

North Marine Park Network	IUCN Zones	Values
		Natural values This marine park includes examples of ecosystems representative of the Northern Shelf—a dynamic region with gently sloping shelf topped with a number of pinnacles at depths ranging from 5 m to 30 m. Tidal eddies induce localised upwellings and hotspots of productivity that correspond with aggregations of marine life within this marine park. The key ecological feature in this marine park is the Gulf of Carpentaria basin—characterised by soft sediments that support abundant and diverse communities dominated by polychaetes, crustaceans, molluscs and echinoderms, with pelagic fish species such as shark, snapper, tuna and mackerel. This marine park overlaps the Arafura Sill, which is a seafloor barrier that restricts movement of water into the Gulf of Carpentaria basin and forms a distinct biogeographical transition point for sessile invertebrate (e.g. sponges and corals) and fish species. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding habitat for seabirds and interesting and foraging habitat for marine turtles. Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Yolŋu people have responsibilities for sea country in this marine park. This marine park contains sites which are registered under the Northern Territory Aboriginal Sacred Sites Act 1989 (NT). The Northern Land Council is the Native Title Representative Body for the Northern Territory's northern region. Heritage values No international, Commonwealth or national heritage listings apply to this marine park. Social and economic values Commercial fishing, tourism, and recreation, including fishing, are important activities in this marine park.
West Cape York Marine Park	National Park Zone (II) Habitat Protection Zone (IV) Special Purpose Zone (VI)	Description The West Cape York Marine Park is located adjacent to the northern end of Cape York Peninsula approximately 25 km south-west of Thursday Island and 40 km north-west of Weipa, Queensland. It extends from Queensland State waters to the limit of Australia's exclusive economic zone. This Marine Park covers an area of 16,012 km² and water depths range from less than 15 m to 70 m.

North Marine Park Network	IUCN Zones	Values
		Natural values This marine park includes ecosystems representative of: • Northeast Shelf Transition—includes continental shelf, shallow water depths and high bottom salinity. It is influenced by tidal currents and has sandy substrates and reefs supporting benthic marine communities, reef-dwelling and pelagic species. • Northern Shelf Province—a dynamic region with gently sloping shelf topped with a number of pinnacles at depths ranging from 5 m to 30 m. Tidal eddies induce localised upwellings and hotspots of productivity that correspond with aggregations of marine life within this marine park. Key ecological features are: • Gulf of Carpentaria basin • Gulf of Carpentaria coastal zone. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include breeding and foraging habitat for seabirds, internesting and foraging habitat for marine turtles and dugong, and foraging, breeding and calving habitat for dolphins. Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. Torres Strait Islanders and coastal First Nations people of the west coast of Cape York have responsibilities for sea country in this marine park. The Cape York Land Council is the Native Title Representative Body for the Cape York region, which includes most of this marine park. The Carpentaria Aboriginal Land Council and the Torres Strait Regional Authority also perform the function of Native Title Representative Bodies for parts of this marine park. Heritage values No international, Commonwealth or national heritage listings apply to the marine park. The marine park contains one known shipwreck listed under the Historic Shipwrecks Act 1976. Social and economic values Commercial fishing, tourism, and recreation, including fishing, are important activities in this marine park.
Oceanic Shoals	National Park Zone (II) Multiple Use (VI) Oceanic Shoals Special Purpose (Trawl) (VI)	Description The Oceanic Shoals Marine Park is located west of the Tiwi Islands, approximately 155 km north-west of Darwin, Northern Territory and 305 km north of Wyndham, Western Australia. It extends to the limit of Australia's exclusive economic zone. The marine park covers an area of 71,743 km² and water depths from less than 15 m to 500 m.

North Marine Park Network	IUCN Zones	Values
	Habitat Protection (IV)	Natural values This marine park includes ecosystems representative of the Northwest Shelf Transition—a dynamic environment influenced by strong tidal currents, upwellings of nutrient-rich waters, and a range of prominent seafloor features. The pinnacles, carbonate banks and shoals are sites of enhanced biological productivity. Key ecological features are: • carbonate bank and terrace systems of the Van Diemen Rise • carbonate bank and terrace system of the Sahul Shelf • pinnacles of the Bonaparte Basin • shelf break and slope of the Arafura Shelf. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this marine park include foraging and internesting habitat for marine turtles.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. At the commencement of this plan, there was limited information about the cultural significance of this marine park. The Northern Land Council and the Kimberley Land Council are the Native Title Representative Bodies for the Northern Territory's northern region, and the Kimberley region. The Tiwi Land Council collectively represents traditional owners of the Tiwi Islands.
		Heritage values No international, Commonwealth or national heritage listings apply to this marine park.
		Social and economic values Commercial fishing and mining are important activities in this marine park.
Joseph Bonaparte Gulf Marine Park	Multiple Use Zone (VI) Special Purpose Zone (VI) (NMR only)	Description The Joseph Bonaparte Gulf Marine Park is located approximately 15 km west of Wadeye, Northern Territory, and approximately 90 km north of Wyndham, Western Australia, in the Joseph Bonaparte Gulf. It is adjacent to the Western Australian North Kimberley Marine Park. This marine park covers an area of 8597 km² and water depth ranges between less than 15 m and 100 m.

North Marine Park Network	IUCN Zones	Values
		Natural values This marine park includes examples of ecosystems representative of the Northwest Shelf Transition—a dynamic environment influenced by strong tidal currents, monsoonal winds, cyclones and wind generated waves. The large tidal ranges and wide intertidal zones near this marine park create a physically dynamic and turbid marine environment. The key ecological feature in this marine park is the carbonate bank and terrace system of the Sahul Shelf—characterised by terraces, banks, channels and valleys supporting sponges, soft corals, sessile filter feeders, polychaetes and ascidians. This marine park supports a range of species listed under the EPBC Act. Biologically important areas within this Marine Park include foraging habitat for marine turtles and the Australian snubfin dolphin.
		Cultural values Sea country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their sea country for tens of thousands of years. The Miriuwung, Gajerrong, Doolboong, Wardenybung and Gija and Balangarra people have responsibilities for sea country in this marine park. They are represented by the following Prescribed Bodies Corporate: Miriuwung and Gajerrong Aboriginal Corporation, and Balangarra Aboriginal Corporation. These corporations are the points of contact for their respective areas of sea country in this marine park. The Northern Land Council and the Kimberley Land Council are the Native Title Representative Bodies for the Northern Territory's northern region, and the Kimberley region.
		Heritage values No international, Commonwealth or national heritage listings apply to this marine park, however this marine park is adjacent to the West Kimberley National Heritage Place.
		Social and economic values Tourism, commercial fishing, mining, and recreation including fishing, are important activities in this marine park.

11.6 Threatened Ecological Communities

No Threatened Ecological Communities (TECs) as listed under the EPBC Act are known to occur within the marine waters of the NWMR, or NMR as indicated by the PMST Reports (Appendix A). The Monsoon vine thickets (which is a TEC) occurs on the coastal dunes of Dampier Peninsula (NWMR). The subtropical and temperate coastal saltmarsh (which is a TEC) occurs within the marine water of the SWMR. Both TECs are described in Table 11-5.

Table 11-5: Summary of threatened ecological communities within the NWMR, NMR and SWMR

Threatened Ecological Community	Description	Conservation Values
Threatened Ecological Communities in the NWMR		
Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula	The ecological community represents certain occurrences of monsoon vine thickets in the southwest Kimberley region of Western Australia, predominantly restricted to the coastlines of the Dampier Peninsula from Broome in the south to One Arm Point in the north and on the northeastern coast of the Peninsula from One Arm Point to Goodenough Bay (DSEWPac, 2013d). The TEC occurs as discontinuous patches of dense vegetation and contains approximately 23% of vascular plant species that occur on the Dampier Peninsula. The ecological community contains deciduous, semi-deciduous and evergreen perennial flora species (DSEWPac, 2013d).	The Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula ecological community is listed as endangered (DSEWPac, 2013d). The extent of the ecological community corresponds to country (the traditional lands) of the Bardi Jawi, Djabera Djabera, Goolarabaloo, Jabirr Jabirr, Nyul Nyul and Yawuru Indigenous people. The ecological community is of cultural significance (DSEWPac, 2013d). Patches of the TEC operate as an ecological network with birds, mammals and frugivore species providing connectivity. The vegetation provides refuge for animals (DSEWPac, 2013d).
Threatened Ecological Communities in the NMR		
N/A		
Threatened Ecological Communities in the SWMR		
Subtropical and Temperate Coastal Saltmarsh	The ecological community spans six state jurisdictions: Queensland (southern), New South Wales, Victoria, Tasmania, South Australia and Western Australia (south-western) (DSEWPac, 2013c). The TEC occupies a relatively narrow strip along the Australian coast, in areas which have an intermittent or regular tidal influence. The coastal saltmarsh community consists mainly of salt-tolerant vegetation including grasses, herbs, sedges, rushes and shrubs (Adam, 1990 cited in DSEWPac, 2013c).	The Subtropical and Temperate Coastal Saltmarsh TEC is listed as vulnerable (DCCEEW, 2023a). This TEC consists of organisms including and associated with saltmarsh in coastal regions of sub-tropical and temperate Australia (DSEWPac, 2013c). A wide range of infaunal and epifaunal invertebrates and low and high tide visitors such as fish, birds and prawns also inhabit the TEC (DSEWPac, 2013c). It is reported as an important nursery habitat for fish and prawn species. The dominant marine residents are benthic invertebrates, including molluscs and crabs (Ross et al., 2009 cited in DSEWPac, 2013c) with insects also abundant and considered an important food source for fauna (DSEWPac, 2013c).

11.7 Australian Whale Sanctuary

The Australian Whale Sanctuary has been established to protect all whales and dolphins found in Australian waters. Under the EPBC Act all cetaceans (whales, dolphins and porpoises) are protected in Australian waters.

The Australian Whale Sanctuary includes all Commonwealth waters from the three nautical mile State/Territory waters limit out to the boundary of the economic exclusion zone (i.e. out to 200 NM and further in some places). Within the Australian Whale Sanctuary it is an offence to kill, injure or interfere with a cetacean. Severe penalties apply to anyone convicted of such offences.

11.8 State Marine Parks and Reserves

State Marine Parks and Reserves, proclaimed under the Conservation and Land Management Act 1984 (WA) (CALM Act), are located in State waters and vested in the WA Conservation and Parks Commission. State Marine Parks and Reserves of Western Australia have been considered, with 10 occurring in the NWMR (Table 11-6) and six occurring in the SWMR (Table 11-7).

Three new marine parks were established in 2022 in the Buccaneer Archipelago of the Kimberley. Boundaries commenced on July 1, 2023. The parks have been co-designed and are joint-managed by Traditional Owners, alongside with the Department of Biodiversity, Conservation and Attractions (DBCA, 2021b). The three new marine parks are:

- Bardi Jawi Gaarra Marine Park
- Lalang-gaddam Marine Park (formed from the amalgamation of Lalang-garram/Camden Sound Marine Park, Lalang-garram/Horizontal Falls Marine Park, North Lalang-garram Marine Park and Maiyalam Marine Park along Western Australia's Kimberley Coast)
- Mayala Marine Park.

There is a marine park to be defined in the Exmouth Gulf (EPA, 2022). The Exmouth Gulf Taskforce Interim Report to the Minister for Environment (DWER, 2023) outlines the values and recommended management approach of the Exmouth Gulf Marine Park.

11.9 Summary of Protected Areas Within the NWMR

Table 11-6: Protected areas within the NWMR

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
World Heritage Properties					
Shark Bay World Heritage Property	-	-	✓		Description The Shark Bay World Heritage Property is adjacent to the Shark Bay AMP and was included on the World Heritage List in 1991 (UNESCO, 1991).
					Conservation Values Universal values of the Shark Bay World Heritage Property include large and diverse seagrass beds, stromatolites and populations of dugong and threatened species. Inscribed under Natural Criteria vii, viii, ix and x (UNESCO, 1991).
The Ningaloo Coast World Heritage Property	-	-	✓		Description The Ningaloo Coast World Heritage Property is approximately 710,000 ha and lies within the Ningaloo AMP and was included on the World Heritage List in 2011 (UNESCO, 2011).
					Conservation Values Universal values of the Ningaloo Coast World Heritage Property include high marine species diversity and abundance; in particular, Ningaloo Reef supports both tropical and temperate marine reptiles and mammals. Inscribed under Natural Criteria vii and x (UNESCO, 2011).
National Heritage Places – Natural					
Shark Bay	-	-	✓		Description The Shark Bay National Heritage Place consists of the same area included in the Shark Bay World Heritage Property (refer above) and was established on the National Heritage List in 2007 (DEC, 2008).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
					Conservation Values This national heritage place has a number of exceptional natural features, including one of the largest and most diverse seagrass beds in the world, colonies of stromatolites and rich marine life including a large population of dugongs, and also provides a refuge for a number of other globally threatened species. Shark Bay meets the national heritage listing criteria a, b, c, d, e, f, g, h and I (DEC, 2008).
The Ningaloo Coast	-	-	✓		Description The Ningaloo Coast National Heritage Place consists of the same area included in the Ningaloo Coast World Heritage Property (refer above) and was established on the National Heritage List in 2010 (Commonwealth of Australia, 2010).
					Natural Values The Ningaloo Coast contains one of the best developed near-shore reefs in the world, being home to rugged limestone peninsulas, spectacular coral and sponge gardens and the whale shark. The Ningaloo Coast meets the national heritage listing criteria a, b, c, d, and f (Commonwealth of Australia, 2010).
The West Kimberley	✓	✓	-		Description The West Kimberley National Heritage Place covers an area of around 192,000 km² located in the north-west of Australia from Broome to Wyndham, and was established on the National Heritage List in 2011 (Commonwealth of Australia, 2011).
					Conservation Values The Kimberley plateau, north-western coastline and northern rivers of the West Kimberley provide a vital refuge for many native plants and animals that are found nowhere else or which have disappeared from much of the rest of Australia. In addition, Roebuck Bay is internationally recognised as one of Australia's most significant sites for migratory wading birds. This national heritage place also contains a remarkable history of First Nations occupation, with many places of indigenous sacred value. The West Kimberley meets the national heritage listing criteria a, b, c, d, e, f, g, h and I (Commonwealth of Australia, 2011).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Commonwealth Heritage Places – Natural					
Mermaid Reef – Rowley Shoals	-	✓	-		Description The Mermaid Reef – Rowley Shoals Commonwealth Heritage Place is located within the boundary of the Mermaid Reef Marine National Nature Reserve. The site was listed as a Commonwealth Heritage Place in 2004 (DCCCEEW, n.d.-a).
					Conservation Values The Mermaid Reef-Rowley Shoals Commonwealth Heritage Place is regionally important for the diversity of its fauna and together with Clerke and Imperieuse reefs, has biogeographical significance due to the presence of species which are at, or close to, the limits of their geographic ranges, including fishes known previously only from Indonesian waters. Rowley Shoals is important for benchmark studies as one of the few places off the north-west coast of Western Australia which have been the site of major biological collection trips by the WA Museum (DCCCEEW, n.d.-a).
Ashmore Reef National Nature Reserve	✓	-	-		Description The Ashmore Reef Commonwealth Heritage Place is located within the boundary of the Ashmore Reef Marine Park (refer AMPs below). The site was listed as a Commonwealth Heritage Place in 2004 (DCEEW, n.d-d).
					Conservation Values Ashmore Reef has major significance as a staging point for wading birds migrating between Australia and the Northern Hemisphere and supports high concentrations of breeding seabirds, many of which are nomadic and typically breed on small isolated islands. Ashmore Reef is an important scientific reference area for migratory seabirds, sea snakes and marine invertebrates. The Ashmore Reef Commonwealth Heritage Place is significant for its history of human occupation and use. The island is believed to have been visited by Indonesian fisherman since the early eighteenth century. The islands were used both for fishing and as a staging point for voyages to the southern reefs off Australia's coast (DCEEW, n.d-d).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Scott Reef and Surrounds – Commonwealth Area	✓	-	-		Description Scott Reef and Surrounds Commonwealth Heritage Place is located within the Western Australian Coastal Waters surrounding North and South Scott Reef. The site was listed as a Commonwealth Heritage Place in 2004 (DCEEW, n.d-e). Conservation Values The Scott Reef and Surrounds Commonwealth Heritage Place is regionally important for the diversity of its fauna and has biogeographical significance due to the presence of species which are at, or close to, the limits of their geographic ranges, including fish known previously only from Indonesian waters. Scott Reef is recognised as important for scientific research and benchmark studies due to its age, the extensive documentation of its geophysical and physical environmental characteristics and its use as a site of major biological collection trips and surveys by the WA Museum and the Australian Institute of Marine Science (DCEEW, n.d-e).
Ashmore Reef National Nature Reserve	✓	-	-		Description The Ashmore Reef Commonwealth Heritage Place is located within the boundary of the Ashmore Reef Marine Park (refer AMPs below). The site was listed as a Commonwealth Heritage Place in 2004 (DCEEW, n.d-d). Conservation Values Ashmore Reef has major significance as a staging point for wading birds migrating between Australia and the Northern Hemisphere and supports high concentrations of breeding seabirds, many of which are nomadic and typically breed on small isolated islands. Ashmore Reef is an important scientific reference area for migratory seabirds, sea snakes and marine invertebrates. The Ashmore Reef Commonwealth Heritage Place is significant for its history of human occupation and use. The island is believed to have been visited by Indonesian fisherman since the early eighteenth century. The islands were used both for fishing and as a staging point for voyages to the southern reefs off Australia's coast (DCEEW, n.d-d).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Scott Reef and Surrounds – Commonwealth Area	✓	-	-		Description Scott Reef and Surrounds Commonwealth Heritage Place is located within the Western Australian Coastal Waters surrounding North and South Scott Reef. The site was listed as a Commonwealth Heritage Place in 2004 (DCEEW, n.d-e). Conservation Values The Scott Reef and Surrounds Commonwealth Heritage Place is regionally important for the diversity of its fauna and has biogeographical significance due to the presence of species which are at, or close to, the limits of their geographic ranges, including fish known previously only from Indonesian waters. Scott Reef is recognised as important for scientific research and benchmark studies due to its age, the extensive documentation of its geophysical and physical environmental characteristics and its use as a site of major biological collection trips and surveys by the WA Museum and the Australian Institute of Marine Science (DCEEW, n.d-e).
Ningaloo Marine Area – Commonwealth Waters	-	-	✓		Description The Ningaloo Marine Area Commonwealth Heritage Place is located within the Commonwealth waters of the Ningaloo Marine Park (refer AMPs below). The site was listed as a Commonwealth Heritage Place in 2004 (DCEEW, n.d-f). Conservation Values The Ningaloo Marine Area Commonwealth Heritage Place provides a migratory pathway for humpback whales and foraging habitat for whale shark. The place is an important breeding area for billfish and manta ray. The Ningaloo Marine Area provides opportunities for scientific research relating to aspects of the area's unique features including tourism (marine ecology, whales, turtles, whale shark, fish and oceanography (DCEEW, n.d-f).
Yampi Defence Area	✓	-	-		Description Located 35 km south of Koolan Island the Yampi Defence Area displays a unique mosaic of geographical landforms that is unique to the region. The occurrence of such diverse landscapes within a small area is an unusual occurrence (DCCEEW, n.d.-c).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
					Conservation Values The Yampi Defence Area occurs at the confluence of three biogeographic regions in the North-west of Australia. It exhibits diverse landforms, soils, and vegetation representative of the sandstone plateaux of the wetter areas of the North-west Kimberley to the broad plains and pindin scrub of the drier areas in the South-west Kimberley. The Yampi peninsula contains one of the richest amphibian records in the Kimberley. The Yampi Defence Area meets the Commonwealth heritage listing criteria a,b,c (DCCEEW, n.d.-c).
Learmonth Air Weapons Range Facility	-	-	✓		Description Located along the Ningaloo coastline, the Learmonth Air Weapons Range Facility was one of Australia's most active bombing ranges until 1990. It is of considerable importance in documenting sea level and landform changes since the late Cenozoic period (DCCEEW, n.d.-b). Conservation Values The area includes an ancient reef complex and cave fauna that is of exceptional importance. The ages of the reef terraces are key to understanding the timing of uplift events. The Learmonth Air Weapons Range Facility meets the Commonwealth heritage listing criteria a,b,c (DCCEEW, n.d.-b).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Wetlands of International Importance (Ramsar)					
Ashmore Reef National Nature Reserve	✓	-	-	Ramsar	Description The Ashmore Reef Ramsar site is located within the boundary of the Ashmore Reef Marine Park (refer AMPs below). The site was listed under the Ramsar Convention in 2002 (Commonwealth of Australia, 2002b).
					Conservation Values The Ashmore Reef Ramsar site supports internationally significant populations of seabirds and shorebirds, is important for turtles (green, hawksbill and loggerhead) and dugong, and has the highest diversity of hermatypic (reef-building) corals on the Western Australian coast. It is known for its abundance and diversity of sea snakes. However, since 1998 populations of sea snakes at Ashmore Reef have been in decline (Commonwealth of Australia, 2002b).
					Cultural Values Indonesian fishers have regularly visited Ashmore Reef since the early eighteenth century to fish within the area and use the islands for staging points before travelling to other reefs in the region. Indonesian artefacts have been found on Cartier Island, and West, Middle and East Islands (Commonwealth of Australia, 2002b).
Eighty Mile Beach	-	✓	-	Ramsar	Description The Eighty Mile Beach Ramsar site covers an area of 1250 km ² , located along a long section of the Western Australian coastline adjacent to the Eighty Mile Beach AMP (refer below) (CALM, 2003a).
					Conservation Values The Eighty Mile Beach Ramsar site includes saltmarsh and a raised peat bog more than 7000 years old. The site contains the most important wetland for waders in north-western Australia, supporting up to 336,000 birds, and is especially important as a land fall for waders migrating south for the austral summer (CALM, 2003a).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Roebuck Bay	-	✓	-	Ramsar	Description The Roebuck Bay Ramsar site covers an area of 550 km², located south of Broome and adjacent to the Roebuck AMP (refer below) (CALM, 2003b). Conservation Values The Roebuck Bay Ramsar site is recognised as one of the most important areas for migratory shorebirds in Australia. The site regularly supports over 100,000 waterbirds, with numbers being highest in the austral spring when migrant species breeding in the Palearctic stop to feed during migration. Roebuck Bay supports one of the largest known populations of Australian snubfin dolphins (<i>Orcaella heinsohni</i>)—a species with a limited distribution, vulnerable conservation status, and high cultural value (CALM, 2003a; D'Cruz <i>et al.</i>, 2022).
Ord River Floodplain	✓			Ramsar	Description The Ord River Floodplain Ramsar site is in the East Kimberley region and encompasses an extensive system of river, seasonal creek, tidal mudflat, and floodplain wetlands. The site is a nursery, feeding and/or breeding ground for migratory birds, waterbirds, fish, crabs, prawns, and crocodiles. The site supports vulnerable species under the EPBC Act, including: Freshwater Sawfish (<i>Pristis microdon</i>), Green Sawfish (<i>Pristis zijsron</i>) and the Australian Painted Snipe (<i>Rostratula australis</i>). The site is also one of the only two known habitats in WA of the nationally endangered Northern River Shark (<i>Glyphis garricki</i>) (DCCEEW, 2019a). Conservation Values The site represents the best example of wetlands associated with the floodplain and estuary of a tropical river system in the Tanami-Timor Sea Coast Bioregion in the Kimberley. In addition, the False Mouths of the Ord are the most extensive mudflat and tidal waterway complex in Western Australia (DCCEEW, 2019a).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Wetlands of National Importance (DAWE, 2019)					
Ashmore Reef	✓	-	-		Description Ashmore Reef is a shelf-edge platform reef located among the Sahul Banks of north-western Australia. It covers an area of 583 km ² and consists of three islets surrounded by intertidal reef and sand flats (DCCEEW, 2019b).
					Conservation Values These islets are major seabird nesting sites with 20 breeding species recorded to date. The total bird population has been estimated to exceed 100,000 during the peak breeding season. The marine reserve also has the highest diversity of marine fauna of the reefs on the NWS and differs from other reefs and coastal areas in the region. The area meets criteria 1, 3, 4 and 5 for inclusion on the Directory of Important Wetlands in Australia (DCCEEW, 2019b).
Mermaid Reef	-	✓	-		Description Mermaid Reef Marine Park covers an area of around 540 km ² , located ~280 km west north-west of Broome, and is the most north-easterly atoll of the Rowley Shoals (DCCEEW, 2019b).
					Conservation Values The reefs of the Mermaid Reef Marine Park have biogeographic value due to the presence of species that are at or close to the limit of their distribution. The coral communities are one of the special values of Mermaid Reef. The area meets criteria 1, 2 and 3 for inclusion on the Directory of Important Wetlands in Australia (DCCEEW, 2019b).
Exmouth Gulf East	-	-	✓		Description Exmouth Gulf East covers an area of 800 km ² and includes wetlands in the eastern part of Exmouth Gulf, from Giralia Bay; to Urala Creek, Locker Point (DCCEEW, 2019b).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
					Conservation Values The Exmouth Gulf East is an outstanding example of tidal wetland systems of the low coast of north-west Australia, with well-developed tidal creeks, extensive mangrove swamps and broad saline coastal flats. The site is one of the major population centres for dugong in WA and its seagrass beds and extensive mangroves provide nursery and feeding areas for marine fishes and crustaceans in the Gulf. The area meets criteria 1, 2 and 3 for inclusion on the Directory of Important Wetlands in Australia (DCCEEW, 2019b).
Hamelin Pool	-	-	✓		Description Hamelin Pool covers an area of 900 km² in the far south-east part of Shark Bay (DCCEEW, 2019b).
					Conservation Values Hamelin Pool is an outstanding example of a hypersaline marine embayment and supports extensive microbialite (subtidal stromatolite) formations, which are the most abundant and diverse examples of growing marine microbialites in the world. The area meets criteria 1 and 6 for inclusion on the Directory of Important Wetlands in Australia (DCCEEW, 2019b).
Shark Bay East	-	-	✓		Description Shark Bay East covers a 250 km area of coastline comprising tidal wetlands, and marine waters less than 6 m deep at low tide, in the east arm of Shark Bay (DCCEEW, 2019b).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
					Conservation Values The site is an outstanding example of a very large, shallow marine embayment, with particularly extensive occurrence of seagrass beds and substantial areas of intertidal mud/sandflats and mangrove swamp. The site supports what is probably the world's largest discrete population of dugong; it is also a major nursery and/or feeding area for turtles, rays, sharks, other fishes, prawns and other marine fauna; and is a major migration stop-over area for shorebirds. The area meets criteria 1, 2, 3, 4, 5 and 6 for inclusion on the Directory of Important Wetlands in Australia (DCCEEW, 2019b).
State Marine Parks and Reserves					
North Kimberley Marine Park	✓	-	-	Sanctuary, Special Purpose and General Use Zones	Description The North Kimberley Marine Park covers. 18,450 km² with its south- western boundary located ~270 km north-east of Derby (DPAW, 2016a).
					Conservation Values The marine park covers approximately 1,845,000 hectares. The coral reefs of the North Kimberley have the greatest diversity in Western Australia and are some of the most pristine and remarkable reefs in the world. The park surrounds more than 1000 islands and is home to listed species such as dugongs, marine turtles, and sawfishes (DPAW, 2016a).
					Social and Economic Values The park features diverse wildlife, remarkable scenery and cultural heritage which provides excellent opportunities for tourism experiences, recreational and nature-based activities such as fishing and hunting (DPAW, 2016a).
					Cultural Values The Wunambal Gaambera, Balanggarra, Ngarinyin and Miriung Gajerrong people have strong and ongoing cultural connections to the North Kimberley saltwater country and rely on coastal and marine environments and resources for their cultural identity, livelihoods and economy (DPAW, 2016a).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Rowley Shoals Marine Park	-	✓	-	Sanctuary, Recreation and General Use Zones	Description The Rowley Shoals comprise of three reef systems, Mermaid Reef, Clerke Reef and Imperieuse Reef, all 30-40 km apart. These reef systems are located ~300 km west north-west of Broome (DEC, 2007a). Conservation Values The three coral atolls of the Rowley Shoals Marine Park comprise of shallow lagoons inhabited by diverse corals and abundant marine life, each covering around 80 km² at the edge of Australia's continental shelf (DEC, 2007a). Further offshore, the seafloor slopes away to the abyssal plain, some 6000 m below. Undersea canyons slice the slope; these features are commonly associated with diverse communities of deep-water corals and sponges and create localised upwellings that aggregate pelagic species like tunas and billfish (DEC, 2007a). Social and Economic Values Due to its remote location, the Rowley Shoals has low numbers of visitors with most arriving aboard licenced charter boats. Popular activities in the area include scuba diving, recreational fishing, and boating (DEC, 2007a).
Yawuru Nagulagun / Roebuck Bay Marine Park	-	✓	-	Special Purpose Zone	Description Yawuru Nagulagun / Roebuck Bay Marine Park is a series of intertidal flats lying on the coast to the south-east of Broome. Conservation Values Roebuck Bay is an internationally significant wetland and one of the most important feeding grounds for migratory shorebirds in Australia. Australian snubfin and Australian humpback dolphins frequent the waters and humpback whales pass through on their annual migration. Flatback turtles nest on the shores and are found in the bay's waters with other sea turtle species. Seagrass and macroalgae communities provide food for protected species such as the dugong and flatback turtles (DPAW, 2016b). Social and Economic Values The marine park is adjacent to Broome and supports tourism activities and provides an active outdoor lifestyle for the residents of the region (DPAW, 2016b).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
					Cultural Values The Yawuru people have lived along the shores of Roebuck Bay for thousands of years and have a dynamic and enduring relationship with the Yawuru country. The coastline is important for cultural activities and is a place for hunting, fishing, gathering and camping for the Yawuru people (DPAW, 2016b).
Eighty Mile Beach Marine Park	-	✓	-	Sanctuary, Recreation, Special Purpose and General Use Zones	Description Eighty Mile Beach Marine Park covers ~2000 km ² stretching across 220 km of coastline between Port Hedland and Broome (DPAW, 2014a).
					Conservation Values Eighty Mile Beach Marine Park is one of the world's most important feeding grounds for small wading birds that migrate to the area each summer, travelling from countries thousands of kilometres away. The marine park is a major nesting area for flatback turtles which are found only in northern Australia. Sawfishes, dugongs, dolphins and millions of invertebrates inhabit the sand and mud flats, seagrass meadows, coral reefs and mangroves (DPAW, 2014a).
					Social and Economic Values Social values of the marine park include tourism, nature-based recreational activities and commercial fishing (DPAW, 2014a).
					Cultural Values The Karajarri, Nyangumarta and Ngarla people have a powerful connection to the land and sea of this region. Traditional hunting and fishing are important cultural activities for the traditional owners of this marine park (DPAW, 2014a).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Montebello Islands Marine Park, Barrow Island Marine Park and Barrow Island Marine Management Area (jointly managed)	-	✓	-	Sanctuary, Recreation, General Use and Special Purpose Zones	Description The Montebello Islands Marine Park, Barrow Island Marine Park and Barrow Island Marine Management Area are located off the north-west coast of WA, ~1600 km north of Perth, and cover areas of ~583 km², 42 km² and 1,147 km², respectively (DEC, 2007b). Conservation Values The Montebello/Barrow Islands marine conservation reserves have very complex seabed and island topography, resulting in a myriad of different habitats, subtidal coral reefs, macroalgal and seagrass communities, subtidal soft-bottom communities, rocky shores and intertidal reef platforms, which support a rich diversity of invertebrates and finfish. The reserves are important breeding areas for several species of marine turtles and seabirds, which use the undisturbed sandy beaches for nesting. Humpback whales migrate through the reserves and dugongs occur in the shallow warm waters (DEC, 2007b). Social and Economic Values Major commercial fishing and pearling occur within the area which provide employment and economic value to surrounding communities. Nature based-tourism, water sports and recreational fishing are popular recreational activities undertaken in the area (DEC, 2007b). Cultural Values There are no recorded seabed aboriginal sites within this park. However, it is possible there are aboriginal archaeological sites on the seabed that were created before the most recent sea level rise (DEC, 2007b).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Ningaloo Marine Park and Muiron Islands Marine Management Area (jointly managed)	-	-	✓	Sanctuary, Recreation, General Use and Special Purpose Zones	Description The Ningaloo Marine Park and Muiron Islands Marine Management Area are located off the North-west Cape, ~1200 km north of Perth, and cover areas of ~2633 km² and 286 km² respectively (CALM, 2005a). Ecological Values Ningaloo Reef is the largest fringing coral reef in Australia. Temperate and tropical currents converge in the Ningaloo region resulting in highly diverse marine life including spectacular coral reefs, abundant fishes and species with special conservation significance such as turtles, whale sharks, dugongs, whales and dolphins. The region has diverse marine communities including mangroves, algae and filter-feeding communities and has high water quality. These values contribute to the Ningaloo Marine Park being regarded as the State's premier marine conservation icon. The Muiron Islands Marine Management Area is also important, containing a very diverse marine environment, with coral reefs, filter-feeding communities and macroalgal beds. In addition, the Islands are important seabird and green turtle nesting areas (CALM, 2005a). Social and Economic Values The Ningaloo region has a high number of visitors enjoying the area who come to appreciate nature-based tourism which brings important economic value to the communities of the area (CALM, 2005a). Cultural Values The Ningaloo Reef has a long history of occupancy by aboriginal communities and aboriginal heritage sites. The Jinigudira and Baiyungu people have lived in this region for thousands of years and use coastal areas for fishing, camping and hunting of turtles and dugongs (CALM, 2005a).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Shark Bay Marine Park and Hamelin Pool Marine Nature Reserve (jointly managed)	-	-	✓	Sanctuary, Recreation, General Use and Special Purpose Zones	Description The Shark Bay Marine Park and Hamelin Pool Marine Nature Reserves are located 400 km north of Geraldton, covering areas of ~7487 km² and 1270 km², respectively (CALM, 1996). Conservation Values Seagrass covers over 4000 km² of the Shark Bay Marine Park, with 12 different species making it one of the most diverse seagrass assemblages in the world. Dugongs regularly use this habitat, with the bay containing one of the largest dugong populations in the world. Humpback whales also use the bay as a staging post in their migration along the coast. Green and loggerhead turtles occur in the bay, with Dirk Hartog Island providing the most important nesting site for loggerheads in Western Australia. Hamelin Pool contains the most diverse and abundant examples of stromatolites found in the world. These are living representatives of stromatolites that existed some 3500 million years ago (CALM, 1996). Social and Economic Values Commercial fishing and tourism are important economic values of the region. Popular recreational activities include nature-based tourism, recreational fishing and water sports (DEC, 2008). Cultural Values The Malgana people occupy the land and waters in the vicinity of Shark Bay and have strong cultural connection to the region. The area is important for cultural practices and for fishing, hunting and camping for the Malgana people (DEC, 2008).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Bardi Jawi Gaarra Marine Park	✓	-	-	Sanctuary, Recreation, Special Purpose Zones (biocultural conservation and cultural protection), and General use	Description The Bardi Jawi Gaarra Marine Park is located in the West Kimberley region surrounding the northern part of the Dampier Peninsula and the western islands of the Buccaneer Archipelago covering areas of ~2040 km². Conservation Values The Bardi Jawi Gaarra Marine Park has a tidal range of 11 m, which is the highest in Australia. The mangrove lined creeks, intertidal and fringing reef areas that encompass the coastline and islands are ecologically important and host a vast number of plants and animals that have adapted to the unique area. Migratory marine mammals including humpback whales migrate to the areas between June and November each year to birth their young. Dugongs visit the area in the cooler months from May to July (DBCA, 2022a). Social and Economic Values Commercial fishing, pearling and aquaculture are important economic activities that occur within this region. The area is a popular tourism destination and hosts a number of recreational activities and water sports (DBCA, 2022a). Cultural Values The Bardi and Jawi people have a significant connection to the animals, sites and places within this region which are connected by stories and songlines. The sea country is used for hunting, fishing, cultural activities and business (DBCA, 2022a).
Lalang-gaddam Marine Park	✓	-	-	Sanctuary, Recreation, General Use and Special Purpose Zones	Description Amended joint management plan for the Lalang-gaddam / Camden Sound, Lalang-gaddam / Horizontal Falls and North Lalang-gaddam marine parks, and indicative joint management plan for the proposed Maiyalam Marine Park. The Lalang-gaddam Marine Park is located in the Kimberley region of Western Australia and adjacent to Derby and the Shire of Wyndham. The Class A marine park covers ~13,085 km² (DBCA, 2022b).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
					Conservation Values The Lalang-gaddam / Camden Sound Marine Park is the most important humpback whale nursery in the Southern Hemisphere. It also features the spectacular coastal Montgomery Reef. The marine park is home to six species of threatened marine turtle. Australian snubfin and Indo-Pacific humpback dolphins, saltwater crocodiles, manta rays, several species of protected sawfish, and the world's large population of dugongs (~12,000). The Lalang-gaddam Marine Park's most celebrated attraction, The Horizontal Falls is created by massive tides of up to 10 m and narrow gaps in two parallel tongues of land meaning the tide falls faster than the water can escape, producing 'horizontal falls'. There are also islands with fringing coral reefs and mangrove-lined creeks and bays. This marine park has a number of islands fringed with coral reef and has been identified as an ecological hotspot and supports more than 1% of the world's population of brown boobies, with up to 2,000 breeding pairs. Approximately 500 pairs of crested terns also nest on the island (DBCA, 2022b). Social and Economic Values This marine park has spectacular scenery which attracts a number of tourists and generates approximately \$563 million annually. Recreational fishing and recreational maritime activities are popular within this marine park. Commercial fisheries can operate within the waters of this marine park, however many do not regularly fish within this area. Pearling and aquaculture occurs within this marine park and provides economic value for the region (DBCA 2022b). Cultural Values The area is of cultural significance to the Dambeemangarddee people who have lived on the land and cared for land and sea country for tens of thousands of years. Some animals such as the barramundi and rock cod have particular cultural significance and are sacred animals to the Dambeemangarddee people. Numerous coastal and marine plants continue to be an important food source for the traditional owners of this marine park (DBCA, 2022b).

Protected Area	Woodside Activity Area			IUCN Protected Area Category* or Relevant Park Zone	Description and Values
	Browse	NWS/S	NW Cape		
Mayala Marine Park	✓	-	-	Sanctuary, Recreation, General Use and Special Purpose Zones	Description The Mayala Marine Park is a Class A reserve located in the West Kimberley region and covers ~3150 km² (DBCA, 2022c). Conservation Values The Mayala Marine Park has a tidal range of 11 m, the highest in Australia. The mangrove lined creeks, intertidal and fringing reef areas that encompass the coastline and islands are ecologically important and host a vast number of plants and animals that have adapted to the unique area. The seagrass communities provide habitat and food for many species including turtles and dugongs. Migratory marine mammals including humpback whales migrate to the areas between June and November each year to birth their young. Dugongs visit the area in the cooler months from May to July (DBCA, 2022c). Social and Economic Values Due to the extraordinary natural values of the area, the number of visitors to the area has continued to grow over the years. Popular activities within the park include fishing, boating, and wildlife watching. The waters of this area provide optimal conditions for commercial fishing, pearling and aquaculture (DBCA, 2022c). Cultural Values The area is of exceptional cultural significance to the Malaya people who are true saltwater people and use both land and sea resources and have a strong connection to the land, animals and plants of the region. This marine park has many sacred sites that occur on land and sea which include artefacts, fish traps, and man-made structures. This marine park is culturally significant to the Malaya people who care for country and use this marine park for fishing, hunting and camping (DBCA, 2022c).

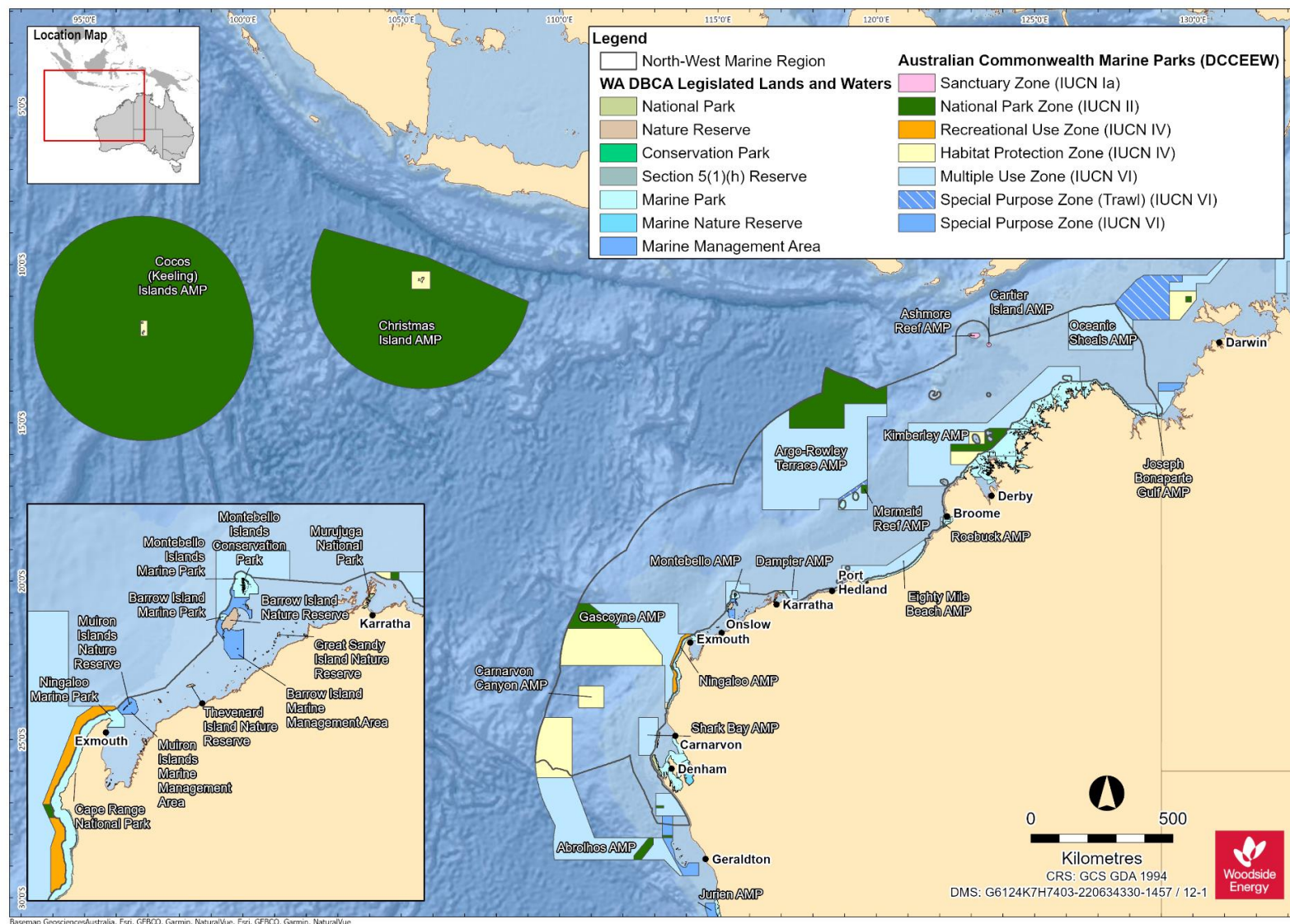


Figure 11-1: Commonwealth and State Marine Protected Areas for the NWMR and Indian Ocean Territories (data source: GA, 2024)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

11.10 Summary of Protected Areas Within the SWMR

Table 11-7: Protected areas within the SWMR

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
World Heritage Properties		
Australian Convict Sites (Fremantle Prison)		Description Fremantle Prison contains well preserved remnants of the earliest phase of European settlement of Western Australia. The Prison includes 16 intact convict-built structures surrounded by a six-metre-high limestone perimeter wall. The prison is one of the largest surviving convict establishments in the world (DCCEEW, 2021a).
		Conservation Values The Australian Convict Sites represent the global phenomenon of convictism—the forced migration of convicts to penal colonies in the 18th and 19th centuries (DCCEEW, 2021a).
National Heritage Places— Natural		
N/A		
Commonwealth Heritage Places— Natural		
Garden Island		Description Garden Island, and in particular the Cliff Point Historic Site, is highly valued by the community for its cultural associations as the site of first settlement in Western Australia. The absence of feral predators means that Garden Island provides a significant refuge for animals vulnerable to predation on the mainland (DAWE, 2004).
		Conservation Values It is likely that Indigenous values exist at this place. As yet these have not been identified, documented or assessed for National Estate significance by the Australian Heritage Commission. Species of particular interest include the Tammar wallaby (<i>Macropus eugenii</i>), carpet python (<i>Morelia spilota</i>), and the lined skink (<i>Lerista lineata</i>). The parabolic sand dunes on the western side of the island are among the best-preserved dunes of the Quindalup soil unit (DAWE, 2004).
Wetlands of International Importance (Ramsar)		
Becher Point Wetlands	Ramsar	Description Beecher Point Wetlands is a system of about sixty small wetlands located near Rockingham in south- west WA, covering an area of around 7 km². The site was listed under the Ramsar Convention in 2001 (DPAW, 2014b).

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
		Conservation Values The wetlands support sedgelands, herblands, grasslands, open-shrublands and low open-forests. The sedgelands that occur within the linear wetland depressions of the Ramsar site are a nationally listed threatened environmental community. At least four species of amphibians and 21 species of reptiles have been recorded on the site. The site also supports the southern brown bandicoot. The site meets criteria 1 and 2 of the Ramsar Convention (DPAW, 2014b).
Forrestdale and Thomsons Lakes	Ramsar	Description Forrestdale Lake is located in the City of Armadale and Thomsons Lake is located in the City of Cockburn both of which lie within the southern Perth metropolitan area, in Western Australia. The site was listed under the Ramsar Convention in 1990 (CALM, 2003c).
		Conservation Values The lakes are surrounded by medium density urban development and some agricultural land. The sediments of Thomsons Lake are between 30,000 and 40,000 years old, which are the oldest lake sediments discovered in WA to date. These lakes are the best remaining examples of brackish, seasonal lakes with extensive fringing sedgeland, typical of the Swan Coastal Plain. The site meets criteria 1, 3, 5 and 6 of the Ramsar Convention (CALM, 2003c).
Peel-Yalgorup System	Ramsar	Description The Peel-Yalgorup System, located adjacent to the City of Mandurah in Western Australia, is a large and diverse system of shallow estuaries, coastal saline lakes and freshwater marshes. The site was listed under the Ramsar Convention in 1990 (CALM, 2003d).
		Conservation Values The Peel-Yalgorup System Ramsar site is the most important area for waterbirds in south-western Australia. It supports a large number of waterbirds, and a wide variety of waterbird species. It also supports a wide variety of invertebrates, and estuarine and marine fish. The system also includes an occurrence of thrombolites. The site meets criteria 1, 3, 5 and 6 of the Ramsar Convention (CALM, 2003d).

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
Vasse-Wonnerup System	Ramsar	Description The Vasse-Wonnerup System Ramsar wetland is situated in the Perth Basin, south-western Western Australia. The site was listed under the Ramsar Convention in 1990 (DPAW, 2014b).
		Conservation Values The Vasse-Wonnerup System is an extensive, shallow, nutrient-enriched wetland system of highly varied salinities. Large areas of the wetland dry out in late summer. The Vasse-Wonnerup System supports tens of thousands of resident and migrant waterbirds of a wide variety of species. More than 80 species of waterbird have been recorded in the system, such as red-necked avocets and black-winged stilts, wood sandpiper, sharp-tailed sandpiper, long-toed stint, curlew sandpiper and common greenshank. 13 waterbird species are also known to breed at the Ramsar site, including the largest regular breeding colony of black swans in south-western Australia. The site meets criteria 5 and 6 of the Ramsar Convention (DPAW, 2014b).
Lake Warden System	Ramsar	Description The Lake Warden System Ramsar site is located adjacent to Esperance, south-western Australia. It is a system of saline lakes, lagoons and marsh areas behind beach-front dunes and at least one relatively narrow connection to the sea. The site was listed under the Ramsar Convention in 1990.
		Conservation Values The wetlands within the Lake Warden System form a system of inter-connected lakes and coastal brackish/saline lagoons connected by channels. It provides a significant habitat, nursery and refuge for waterbirds. Supporting up to 20,000 birds regularly. The system supports over 1% of hooded plovers in south-western Australia who breed regularly at the Lake Warden System. It meets criteria 1, 5 and 6 of the Ramsar Convention (DEC, 2009b).
Wetlands of National Importance (DAWE, 2019)		
Rottnest Island Lakes		Description The Rottnest Island Lakes site is the cluster of 18 lakes and swamps on the north-east part of Rottnest Island (DCCEEW, 2019b).
		Conservation Values An outstanding example of a series of lakes/swamps of varied depth and salinity located on an offshore island; the only island among 200 plus in WA exceeding 10 ha in area, that has a salt-lake complex; the only known example of seasonally meromictic lakes in Australia. The area meets criteria 1, 2, 3 and 6 for inclusion on the Directory of Important Wetlands in Australia (DCCEEW, 2019b).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
State Marine Parks and Reserves		
Jurien Bay Marine Park	Sanctuary, Special Purpose and General Use Zones	Description The Jurien Bay Marine Park is located on the central west coast of WA ~200 km north of Perth and covers an area of 824 km ² (CALM, 2005b).
		Ecological Values The Jurien Bay region is dominated by five major marine habitats: seagrass meadows, bare or sparsely vegetated mobile sand, shoreline and offshore intertidal reef platforms, subtidal limestone reefs, and reef pavement. An extensive limestone reef system parallel to the shore has created a huge shallow lagoon that provides perfect habitat for Australian sea lions, dolphins and a myriad of juvenile fish. Extensive seagrass meadows inside the reef shelter many marine animals such as western rock lobsters, octopus and cuttlefish that make up the diet of young sea lions. The marine park also surrounds dozens of ecologically important islands that contain rare and endangered animals found nowhere else in the world (CALM, 2005b).
		Social and Economic Values Commercial fishing for rock lobster has the highest economic value of any single species commercial fishery in Australia and is important for the economy of the Jurien Bay region. Recreational water activities such as fishing, boating, surfing, diving, and wind surfing are popular within the area (CALM, 2005b).
		Cultural Values The Nyungar people have occupied the land and waters in this region and depended on coastal resources for more than 30,000 years. There are burial sites, middens and other sites of significance listed within the region (CALM, 2005b).
Marmion Marine Park	Sanctuary, Recreation and Special Use Zones.	Description The Marmion Marine Park lies within State waters between Trigg Island and Burns Beach and encompasses a coastal area of ~95 km ² . Marmion Marine Park was the State's first marine park, declared in 1987 (CALM, 1992).
		Ecological Values The marine park has a number of sanctuary zones including Little Island, The Lumps and the Boyinaboat Reef protecting a variety of habitats from limestone reefs, seagrass beds and clear shallow lagoons that support a diversity of marine life. In addition, there are the general use zone and the Waterman Recreation Area. The marine park contains important habitat for the endemic Australian sea lion, an array of seabird species, and migratory whales are regular visitors (CALM, 1992; DPAW, 2016c).

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
		Social Values The marine park is popular for recreational water activities including boating, swimming, kayaking, snorkelling, whale watching, kite and windsurfing. Scuba diving and freediving is common at the Boyinaboat Reef which is located close to Hillary's Boat Harbour. Recreational fishing is permitted in most areas (DPAW, 2016c).
South Coast Marine Park	Sanctuary Zone Special Purpose Zone (cultural protection) Special Purpose Zone (whale conservation) Special Purpose Zone (wildlife conservation) General Use Zone	Description The south-west marine park lies within State waters, between Bremer Bay to the WA/SA border.
		Ecological Values The marine park supports seagrass meadows, macroalgae, cetaceans, pinnipeds, shorebirds and seabirds, fish, sharks and rays, and marine invertebrates. The South-west region has some of the highest seagrass and macroalgal diversity globally, approximately half of the species found here occur nowhere else in the world. The marine park supports foraging areas for cetaceans and seabird and shorebirds, and habitat for the Australian sea lion and New Zealand fur seal. The region supports high proportion of endemic species and high diversity of marine invertebrates (DBCA, 2024).
		Social Values The marine park supports recreational and commercial fishing, and recreational activities and tourisms such as, diving and snorkelling, surfing, four-wheel driving, camping, wildlife watching, swimming, kayaking, and boating (DBCA, 2024).
		Cultural and heritage values First Nations people have had connection in the Western Australian south coast for tens of thousands of years. Native title or traditional ownership has been recognised for several First Nations groups throughout the region, including the Wagyl Kaip and Southern Noongar Traditional Owners, and the Esperance Nyungar, Ngadju People and Mirning People native title holders.
Swan Estuary Marine Park	Special Purpose and Nature Reserve Zones	Description Three biologically important areas of Perth's Swan River make up the Swan Estuary Marine Park, including Alfred Cove, Pelican Point and Crawley. These three sites cover a total area of 3.4 km ² (CALM, 1999).
		Ecological Values The sand flats, mud flats and beaches at the three locations of the Swan Estuary Marine Park provide the only remaining significant feeding and resting areas in the Swan Estuary for trans-equatorial migratory wading and waterbirds. This Marine Park and adjacent reserves also provide habitat for a diverse assemblage of aquatic and terrestrial flora and fauna (CALM, 1999).
		Social and Economic Values Nature-based wildlife tourism operates in the area and this Marine Park supports commercial net fishing. Recreational activities that occur within the area include fishing, bird watching, kayaking, windsurfing, boating, and sightseeing (DBCA, 2023).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
		Cultural Values The Whadjuk people are the traditional owners of the land and waters of Swan Canning Estuary and have frequented the waters of this park for many years. The estuarine and terrestrial habitats provide a source of fish, shellfish, reptiles and birds for hunting (CALM, 1999; DBCA, 2023).
Shoalwater Islands Marine Park	Sanctuary, Special Purpose and General Use Zones	Description The Shoalwater Islands Marine Park is located adjacent to Rockingham on the south-west coast of Western Australia, ~50 km south of Perth and covers an area of ~66 km² (DEC, 2007c).
		Ecological Values The Shoalwater Islands Marine Park consists of a complex seabed and coastal topography consisting of islands, limestone ridges and reef platforms, protected inshore areas and deeper basins, sandbars and beaches, and is home to five species of cetacean and 14 species of sea and shore bird. The waters of this marine park are also used to access feeding grounds for the little penguin (<i>Eudyptula minor</i>) colony on Penguin Island, which is close to the northernmost limit of the species' range and is the largest known breeding colony in Western Australia (DEC, 2007c). A recent study has also reported a recurrent aggregation of scalloped hammerheads (<i>Sphyrna lewini</i>) within this marine park (López et al., 2022).
		Social and Economic Values Commercial fisheries target a number of species within the area and this marine park also supports a mussel farming industry. Tourism is a popular activity within this marine park and includes water sports such as scuba diving, snorkelling, sailing, kayaking, kite surfing, and windsurfing. Recreational fishing is popular in this area and is likely to increase. The diversity of this marine park biota makes this marine park important for scientific research and education among tertiary institutions, schools and outdoors organisations (DEC, 2007c).
		Cultural Values This marine park is of cultural significance to the Gnaarla Karla Booja people who are the traditional owners and have frequented this marine park for thousands of years. The Gnaarla Karla Booja people have continued to use this Marine Park for fishing and hunting. Shoalwater and Garden Island areas are significant parts of the story of creation and there are a number of sites adjacent to and within this marine park that are registered as culturally significant (DEC, 2007c).

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
Ngari Capes Marine Park	Sanctuary, Special Purpose and Recreation Zones	Description The Ngari Capes Marine Park is located off the south-west coast of Western Australia, ~250 km south of Perth, covering ~1238 km ² (DEC, 2013).
		Ecological Values The Ngari Capes Marine Park consists of a complex arrangement of sandy bays, high energy limestone and granite reefs bordered by headlands and cliffs and two weathered capes. Coral communities consist of both tropical and temperate species. Cetaceans and pinnipeds are resident in and/or transient through this Marine Park as well as a diverse range of seabirds and shorebirds (DEC, 2013).
		Social and Economic Values A diverse range of commercial fisheries and aquaculture occur within and around this marine park targeting species such as abalone, salmon, sharks, demersal fish, baitfish, and western rock lobster. This marine park offers a wide range of attractions for marine based tourism which include shore-based and boat-based whale watching tours and dive and snorkel tours. Recreational activities that occur within this marine park include diving, fishing, snorkelling and wildlife watching (DEC, 2013).
		Cultural Values The Pibelmen and Wardani people occupy the lands adjacent to this marine park and utilise the coastline for fishing, hunting, ceremonial activities and resource gathering as they have continued to do for thousands of years. At least 45 sites of Indigenous significance have been identified within or adjacent to this marine park. Many marine species including mammang borungar (whale) and kalda (sea mullet) are culturally significant to the Indigenous people of the southwest region (DEC, 2013).
Walpole and Nornalup Inlets Marine Park	Recreation Zone	Description The Walpole and Nornalup Inlets Marine Park is located adjacent to the towns of Walpole and Nornalup on the south coast of Western Australia, ~120 km west of Albany, and covers ~14 km ² (DEC, 2009a).
		Conservation Values The Walpole and Nornalup Inlets Marine Park consists of a geologically complex lagoonal estuarine system comprising three significant rivers and two connected inlets that are permanently open to the ocean. Approximately 40 marine and estuarine finfish species commonly inhabit the inlet system, as well as a variety of shark and ray species and numerous seabirds and shorebirds. The sandy beaches and shoreline vegetation of the inlet system are of high ecological and social importance to this marine park (DEC, 2009a).
		Social Values The diversity of wildlife and easily accessible terrestrial, estuarine, and coastal scenery has enhanced nature-based tourism within the area. Popular recreational activities that occur within this marine park include boating, fishing, swimming, hiking, bird watching, and wildlife watching (DEC, 2009a).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
		Cultural Values Estuaries are significant hunting, fishing and gathering areas for Minang people of south-western Australia who have a strong spiritual connection to the area. Aboriginal artefact scatters and other listed areas of cultural significance have been found within and adjacent to this marine park (DEC, 2009a).

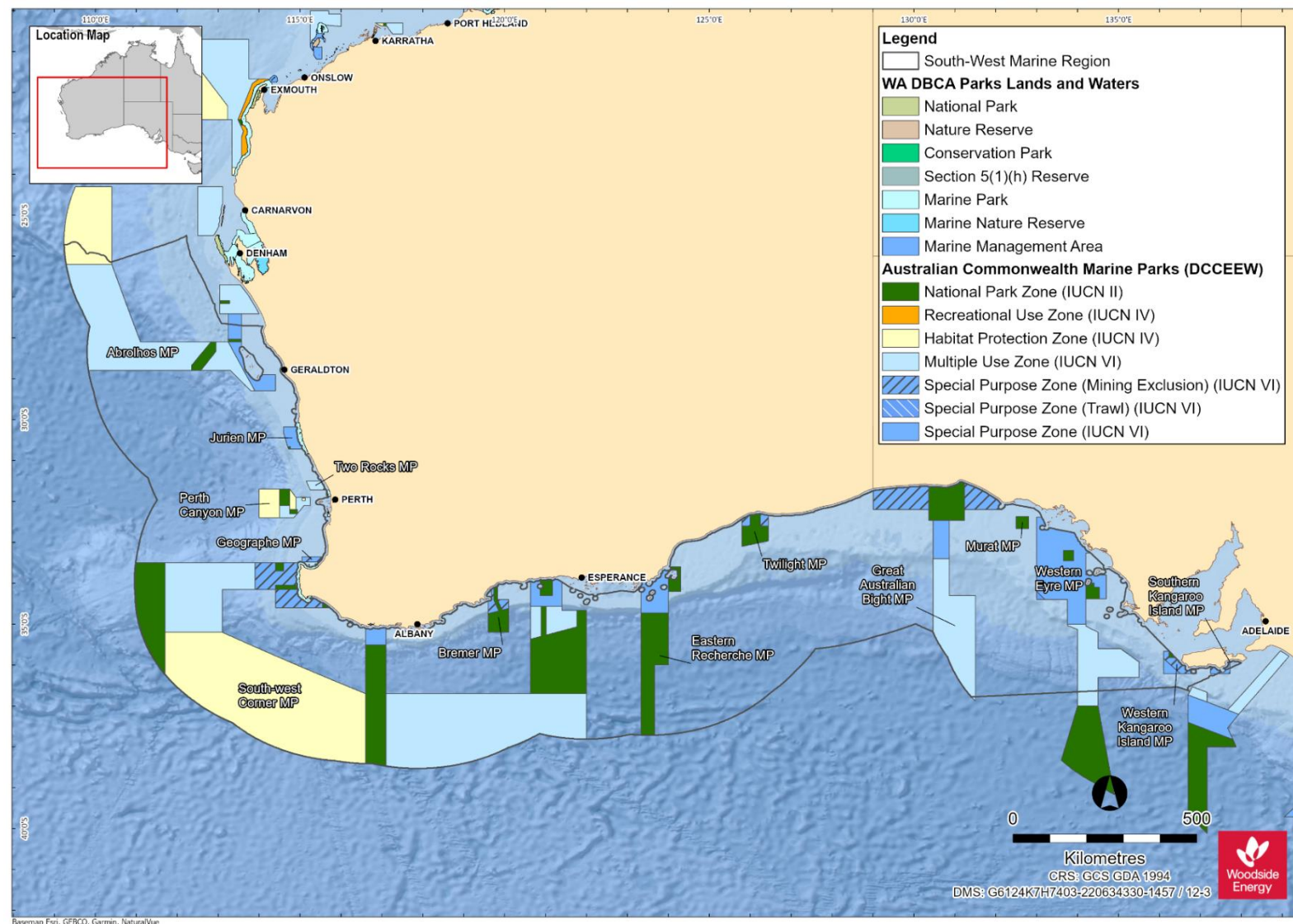


Figure 11-2: Commonwealth and State Marine Protected Areas for the SWMR (data source: GA, 2024)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

11.11 Summary of Protected Areas Within the NMR

Table 11-8: Protected Areas within the NMR

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
World Heritage Properties		
Kakadu National Park		Description Kakadu National Park is a living landscape with exceptional natural and cultural values. It is the largest National Park in Australia and preserves the greatest variety of ecosystems on the Australian continent including extensive areas of floodplains, mangroves, tidal mudflats, coastal areas and monsoon forests. The park was inscribed on the World Heritage list in three stages over 11 years. It is located in tropical north Australia covering a total area of 19,810 km ² (Director of National Parks, 2016).
		Ecological Values The conservation values reflect the WHA Criterion: (i), (vi), (vii) and (ix): Natural features relate to Criterion (vii) – the remarkable contrast between the internationally recognised Ramsar-listed wetlands and the spectacular rocky escarpment and its outliers and Criterion (ix) – four major river systems of tropical Australia and floodplains that are dynamic environments, shaped by changing sea levels and big floods every wet season. These floodplains illustrate the ecological and geomorphological effects that have accompanied Holocene climate change and sea level rise. Kakadu National Park contains important and significant habitats supporting a diverse range of flora and fauna. Coastal areas of the park are dominated by mudflats which are mostly lined by mangroves which support breeding and nursery grounds for a variety of animals. The threatened flatback turtles nest on Field Island which is within the park. Kakadu National Park is a key habitat for threatened species including one species of river shark, two sawfish species and two inshore dolphin species (Director of National Parks, 2016).
		Social Values Kakadu National Park is a popular tourist destination which provides important economic value to the region through boat and fishing tours and wildlife tours. Commercial tours operate within the area which provides employment opportunities for local communities. Popular recreational activities within the park include bushwalking, camping, recreational fishing and boating, swimming, wildlife watching, and viewing culturally significant sites (Director of National Parks, 2016).
		Cultural Values The Bininj/Mungguy people are the traditional owners of Kakadu National Park and have had longstanding custodianship and spiritual connection with the Kakadu region and continue to use the park for cultural practices. Kakadu holds one of the world's greatest concentrations of rock art sites and there is thought to be up to 15,000 sites in total with some sites estimated to be over 20,000 years old (Director of National Parks, 2016).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
National Heritage Places – Natural		
Kakadu National Park		Refer to World Heritage Property description and values above.
Commonwealth Heritage Places— Natural		
N/A		
Wetlands of International Importance (Ramsar)		
Kakadu National Park		Description Australian Ramsar site number 2. The stage 1 and 2 Ramsar sites, established in 1980, 1985 and 1989, respectfully were combined into a single Ramsar site in 2010 (BMT WBM, 2010).
		Conservation Values The Kakadu National Park Ramsar site straddles the western edge of the Arnhem Land Plateau encompassing a range of landforms and extensive floodplains. It is a mosaic of contiguous wetlands comprising the catchments of two large river systems, the East and South Alligator rivers and encompasses extensive tidal mudflat areas. It is an internationally important site for migratory shorebirds as part of the EAAF (BMT WBM, 2010).
Cobourgh Peninsula		Description Australian Ramsar site number 1 established in 1974. This Ramsar site includes freshwater and extensive intertidal areas but excludes subtidal areas. It is in a remote location and there has been minimal human impact on the site (BMT WBM, 2011).
		Conservation Values The wetlands encompassed in the Ramsar site are some of the better protected and near-natural wetlands in the bioregion and there is a diverse array of wetland in a confined area. The site supports important turtle nesting habitat and habitat for coastal dolphin species and is an internationally significant migratory shorebird habitat as part of the EAAF and an important location for seabird breeding colonies (BMT WBM, 2011).

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
Wetlands of National Importance (DAWE, 2019)		
Southern Gulf Aggregation		Description The site is a complex continuous wetland aggregation in the Gulf of Carpentaria, covering an area of ~5460 km ² located 58 km east of Burketown, Queensland (DCCEEW, 2019b).
		Conservation Values The Southern Gulf Aggregation is the largest continuous estuarine wetland aggregation of its type in northern Australia. It is one of the three most important areas for shorebirds in Australia. The area meets criteria 1, 2, 3, 4, 5 and 6 for inclusion on the Directory of Important Wetlands in Australia (DCCEEW, 2019b).
		Social Values The area is an important site for recreational barramundi fishing and is a popular site for ecotourism (DCCEEW, 2019b).
Territory Marine Parks and Reserves		
Cobourg Marine Park	II, IV, VI	Description Cobourg Marine Park covers an area of 2290 km ² and is located in the waters surrounding the Cobourg Peninsula ~220 km north-east of Darwin. This marine park is part of the larger Garig Gunak Barlu National Park. Garig Gunak Barlu National Park includes both this marine park and the Cobourg Sanctuary (Northern Territory Government, 2011)
		Conservation Values Cobourg Marine Park is located in the Cobourg and Van Diemen Gulf marine bioregions with the northern portion of the marine park covered by the Cobourg marine bioregion and the southern portion covered by the Van Diemen Gulf marine bioregion. This marine park is characterised by a number of deeply incised bays and estuaries on its northern shores. These bays are ancient river valleys that were drowned during periods of sea level rise and provide a varied environment and habitat that is quite distinct from the open water areas of the marine park. The areas of the marine park that have been studied and where extensive collections have been made indicates that the Marine Park supports rich and diverse marine life including live coral reefs, seagrass, diverse reef and pelagic fish populations, saltwater crocodiles, and six species of threatened marine turtles and dugong (Northern Territory Government, 2011).
		Social and Economic Values A variety of commercial fisheries, aquaculture and pearling occur within this marine park. The marine park has visitors who stay within the Cobourg sanctuary, sailors who moor in the area and guests who stay at onsite accommodation. Water sports such as fishing, boating, sailing, scuba diving, recreational fishing, sightseeing and wildlife viewing are popular activities undertaken in the marine park (Northern Territory Government, 2011).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Protected Area	IUCN Protected Area Category* or Relevant Park Zone	Description and Values
		Cultural Values The Cobourg people have a longstanding connection to the lands and seas of Cobourg Marine Park. The marine park is a culturally significant place for the Cobourg people to practice customary activities including ceremonies and fishing and hunting of marine resources (Northern Territory Government, 2011).

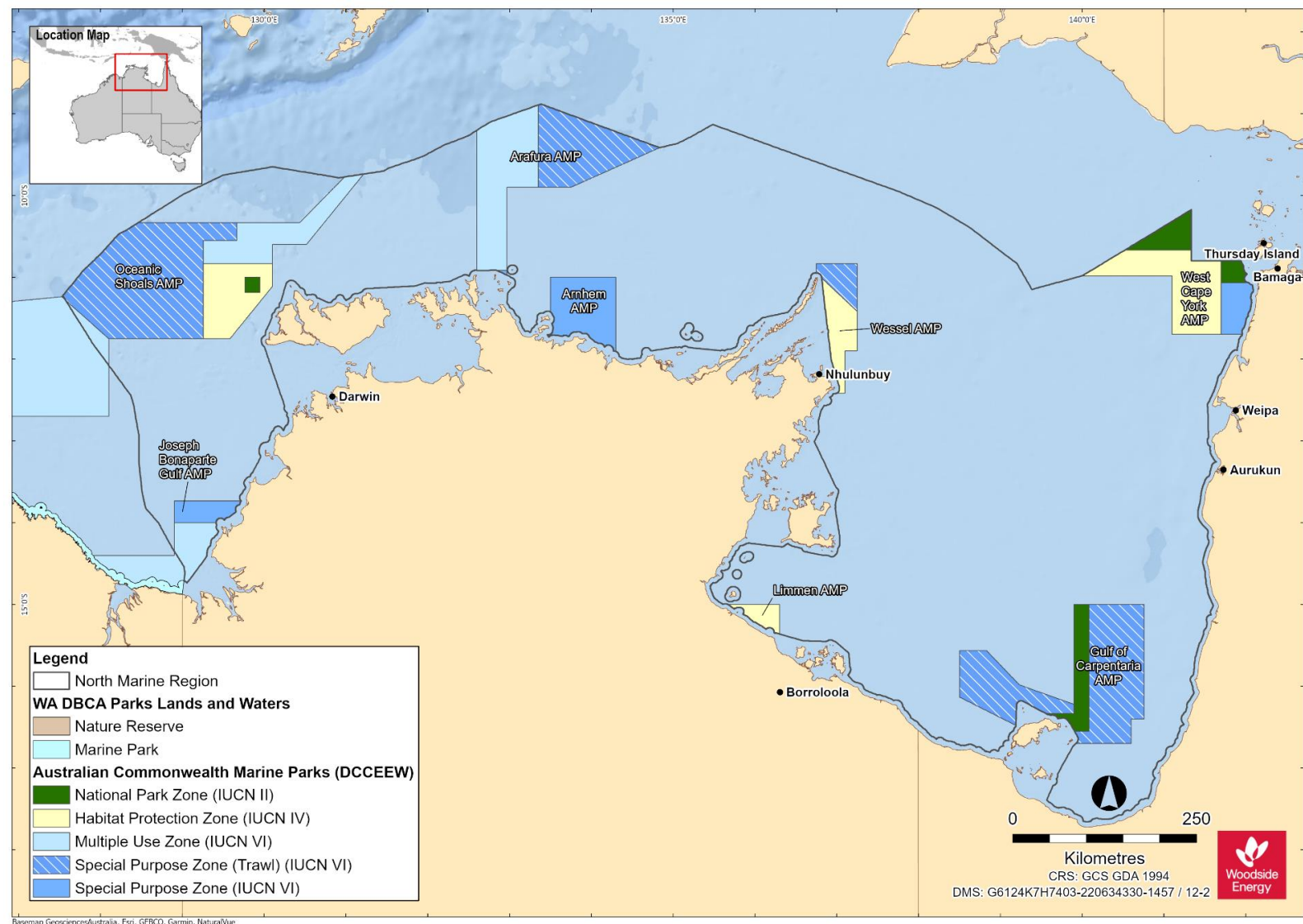


Figure 11-3: Commonwealth and State Marine Protected Areas within the NMR (data source: GA, 2024)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

12. SOCIO-ECONOMIC AND CULTURAL ENVIRONMENT

This section summarises the information relating to the socio-economic and cultural environment of the regions offshore of Western Australia, with a focus on the NWMR and to a lesser extent the SWMR and NWR.

12.1 Cultural Values and Heritage

Woodside's approach to Cultural Values and Heritage management reflects our publicly available [First Nations Communities Policy](#) (Woodside, 2022). This policy is underpinned by core principles that ensure our management of cultural heritage is thorough, transparent and supported by consultation and continued engagement with First Nations communities. Our approach to the identification, management and protection of cultural heritage is consistent with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), engaging with First Nations communities in ways that reflect the principles of seeking Free, Prior and Informed Consent (FPIC). Where heritage is concerned Woodside seeks to avoid impact, or if avoidance is not possible, to minimise and mitigate impact through consultation with relevant First Nations communities. We seek to ensure Traditional Owners and Custodians are central to heritage management so that cultural values are understood and remain protected.

Australia ICOMOS (International Council on Monuments and Sites) is a non-government peak body for cultural heritage professionals formed as a national committee for ICOMOS (international). Australia ICOMOS' mission is to lead cultural heritage conservation in Australia by issuing standards and practice notes. Woodside understands heritage value to mean the cultural significance of a place to an individual or group in line with the Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Australia ICOMOS, 2013) (Burra Charter), and associated practice notes. A cultural feature is therefore comparable to the Burra Charter term "fabric" and refers to a place's elements, fixtures, contents and objects which have cultural values. Although these features are necessarily physical, the place they inhabit or comprise may have tangible or intangible dimensions (Australia ICOMOS. 2013).

12.1.1 Native Title

Woodside uses established systems, such as native title, to identify First Nations groups that may have functions, interests or activities that may be affected. While acknowledging that cultural features and heritage values may exist outside of the native title framework, native title claims, determinations and ILUAs are defined under the *Native Title Act 1993* (Cth). Woodside considers this to be the broadest extent over which First Nations groups have claimed native title rights and interests.

Native title claims are applications made to the Federal Court under the Native Title Act for a determination or decision about native title in a particular area. A claim is made by a native title claim group which asserts it holds native title rights and interests in an area of land and/or water, according to its traditional laws and customs. By making a claim, the native title claim group seeks a decision that native title exists so that its native title rights and interests are recognised by the common law of Australia. This is called a native title determination. A determination is a decision by a recognised body, such as the Federal Court or High Court of Australia, that native title either does or does not exist in relation to a particular area ([Native Title Tribunal](#)).

A requirement to establishing a positive determination of native title in court is proving that there is an organised society that occupied the land and/or waters at the time of British annexation. The requirement of an 'organised society' is set out by Justice Toohey in the historic judgment of *Mabo v Queensland (No 2)*) [\[1992\] HCA 23](#); [\(1992\) 175 CLR 1](#) ('Mabo'). Justice Toohey had the following to say (at 187):

it is inconceivable that indigenous inhabitants in occupation of land did not have a system by which land was utilized in a way determined by that society. There must, of course, be a society sufficiently

organized to create and sustain rights and duties...

Therefore, Woodside understands that native title rights and interests are held communally by an organised society, that native title claims are understood to represent the area over which First Nations groups are claiming these rights and interests, and that native title determinations provide clarity on where native title rights and interests are found to either exist or not exist. Where native title rights or interests are determined to exist, they will be held by a Registered Native Title Body Corporate (section 57, Native Title Act 1993) in trust or as agent for native title holders.

Indigenous Land Use Agreements (ILUAs) are voluntary agreements between native title parties and other people or bodies about the use and management of land and/or waters and are registered by the Native Title Registrar in the Register of ILUAs. An ILUA can be made over areas where:

- native title has been determined to exist in at least part of the area, or
- a native title claim has been made, or
- where no native title claim has been made.

While registered, ILUAs operate as a contract between the parties, including relevant native title holders ([Native Title Tribunal](#)).

The Native Title Act provides for a Representative Aboriginal/Torres Strait Islander Body (Native Title Representative Body) to be recognised by the Commonwealth Minister for an area. Native Title Representative Bodies have specialist functions set out in the Native Title Act within the area for which they are the Native Title Representative Body. However, the functions of a Native Title Representative Body are such that they do not hold details on the cultural features or heritage values of an area and therefore do not inform Woodside's understanding of heritage values or cultural features.

12.1.2 Coastal First Nations Groups

First Nations groups are keenly aware of the extent of their rights, interests and responsibilities for Country, and these are generally discrete, defined areas, including areas of sea (Smyth, 2007). To identify cultural features and heritage values which may exist outside of native title claim, determination and ILUA areas, Woodside considers native title claims, determinations and ILUAs coastally adjacent to areas of operation to be an instructive means of identifying potentially relevant First Nations groups to be consulted.

Woodside understands from engagement with stakeholders that extending a native title group's responsibility to areas which those groups have elected to not include in their claims or ILUAs can have significant cultural consequences for groups and individuals. This may also, over time, build expectations in the broader community that a group is responsible for maintaining environmental values in areas for which they do not hold traditional knowledge.

Woodside acknowledges that a First Nations group's relative proximity to any Operational Areas is not necessarily a meaningful indicator of the connection to the area and providing advice over such areas can be culturally dangerous. As a result, caution must be used when conducting broader engagement.

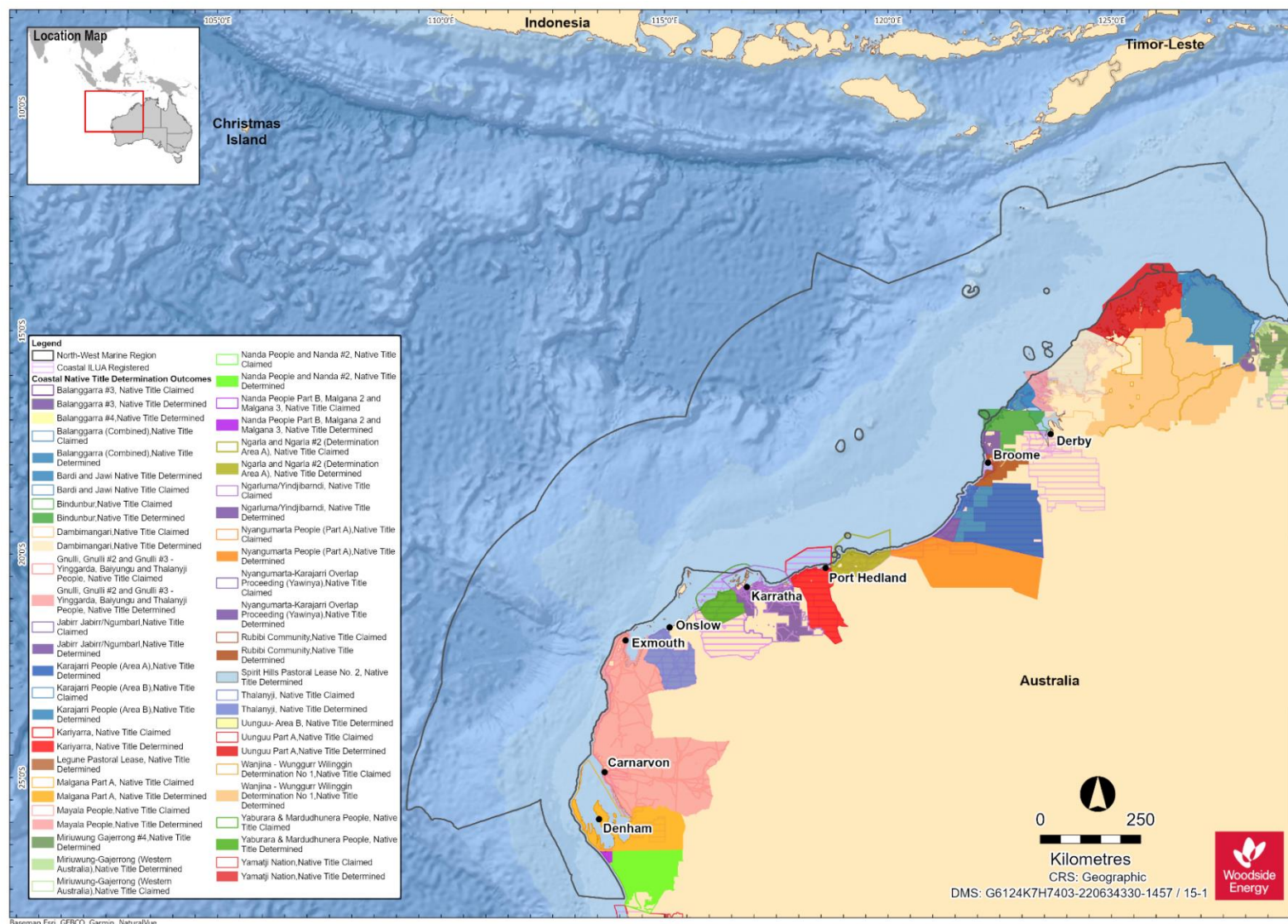


Figure 12-1: Coastal Native Title Claims / Determinations and Indigenous Land Use Agreements (ILUAs) in the NWMR (data source: DPLH, 2024)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

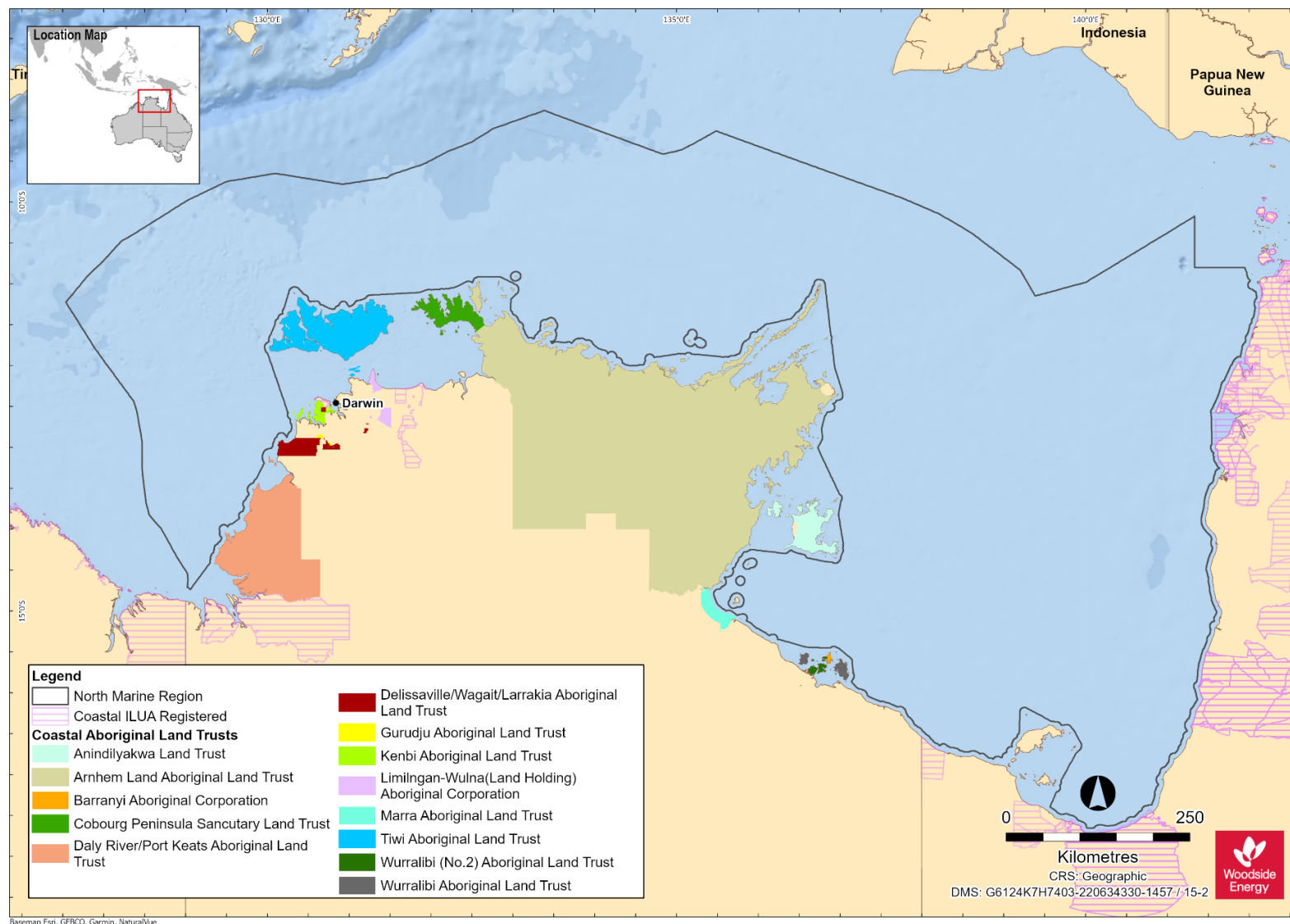


Figure 12-2: Coastal Native Title Claims / Determinations and ILUAs in the NMR (data source: DPLH, 2024)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

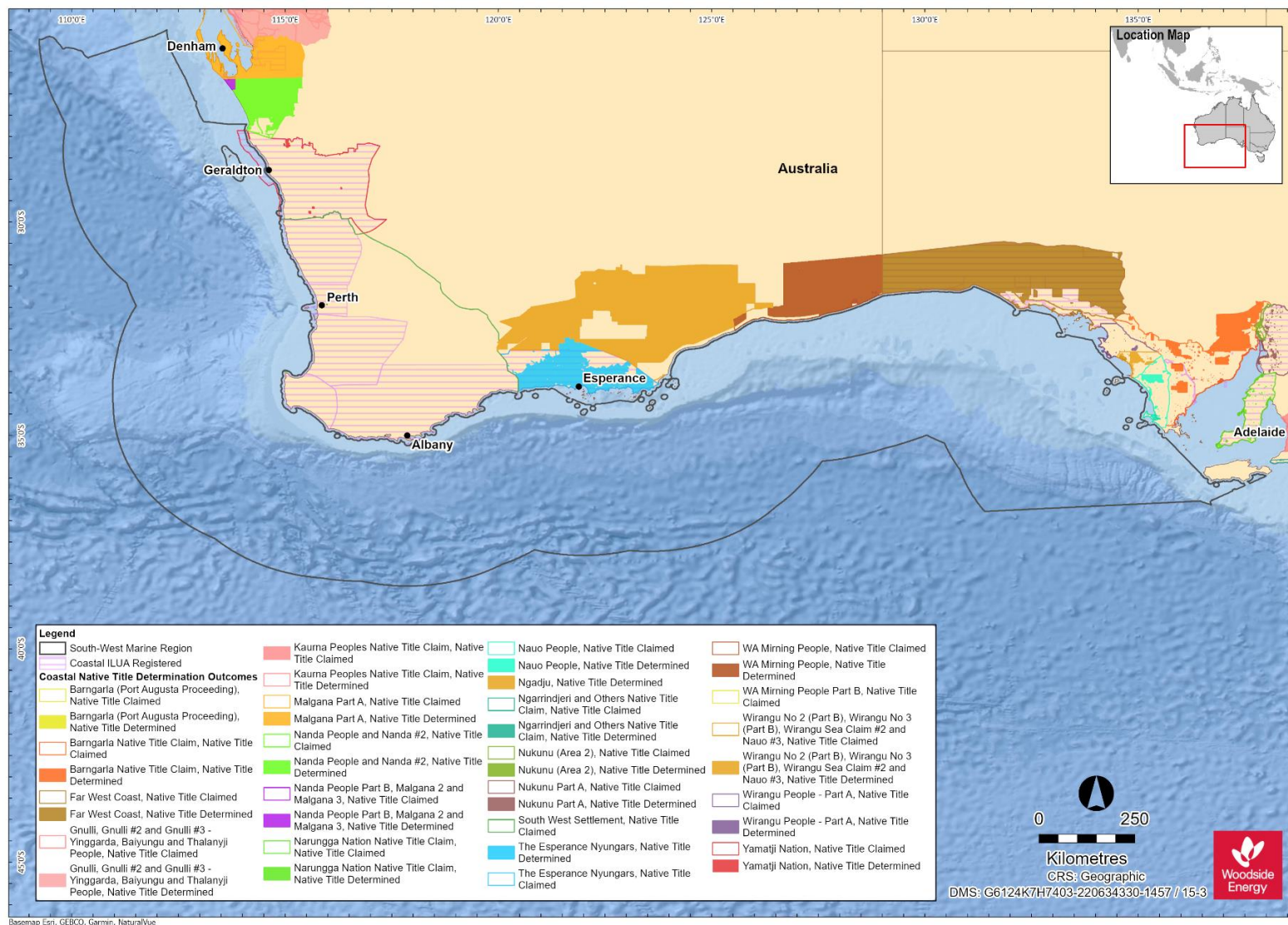


Figure 12-3: Coastal Native Title Claims / Determinations and ILUAs in the SWMR (data source: DPLH, 2024)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

12.1.3 Sea Country

“Sea country is valued for Indigenous cultural identity, health and wellbeing” (DNP, 2018a, 2018b).

Woodside recognises the potential for marine ecosystems to include cultural features as well as environmental values. This is one aspect of the broader concept of “Sea Country”, which can be defined as the area of sea over which a First Nations group has interests, cultural value, connection and use. It has been noted that “the saltwater peoples of the north-west are associated with discrete clan estates or tribal areas, often referred to in contemporary Aboriginal English as ‘Saltwater Country’ or ‘Sea Country’.

‘Country’ refers to more than just a geographical area: it is shorthand for all the values, places, resources, stories and cultural obligations associated with that geographical area.” (Smyth, 2007).

It necessarily follows that an impact to marine ecosystems has the potential to impact cultural features where the impact is detectable within Sea Country—the seascape which Traditional Custodians view, interact with or hold knowledge of. The link between environmental protection and cultural heritage protection is illustrated in the Australian Government’s Indigenous Protected Areas Program. The Indigenous Protected Areas program provides for “areas of land and sea managed by Indigenous groups as protected areas for biodiversity conservation...IPAs deliver environmental benefits...Managing IPAs also helps Indigenous communities protect the cultural values of their country for future generations...” (DCCEEW, 2024c).

McNiven (2004) suggests that “For those mainland groups whose exploitation of the sea was limited to littoral resources, it is likely that seascapes extended no more than c. 20–30km out to sea, out to the horizon and the limit of human visibility. However, in some coastal places, clouds that can be seen well over 100km out to sea are imbued with spiritual significance. For those groups with elaborate canoe technology, seascapes extend well over the horizon.” While there is some evidence of traditional watercraft in Australia’s North West, the recorded evidence is limited to travel across inland rivers (e.g. Barber and Jackson, 2011) or travel between coastal islands (Paterson et al., 2019).

Cultural features of coastal areas may include marine species that may travel many thousands of kilometres through areas with similar cultural values to multiple Indigenous language groups. Some species may travel as far as 5000 km from Antarctica to the Kimberley region of Western Australia (Double et al., 2010, 2012), passing First Nations language groups along the entire west coast of Australia.

Table 12-1: Commonly identified Sea Country species and habitats

Value	Details
Marine mammals	Whales, and in particular humpback whales and dugongs, are commonly identified through consultation with First Nations people as culturally important species, with totemic importance. Common interests include maintaining their populations, biodiversity, and migration patterns.
Marine reptiles	Turtles and sea snakes are commonly identified through consultation with First Nations people as culturally important species and a favoured resource. First Nations people that identify marine reptiles as species of totemic importance or integral to songlines may place high cultural value on their protection. Cultural knowledge of turtles at a population level (turtle migration, behaviour and the related marine environment) may all be important in ensuring the continuation of cultural functions and activities that remain valuable to First Nations people (Fijn, 2021:47; Delisle et al., 2018).
Fish and cephalopods	Fish and squid are commonly identified through consultation with First Nations people as a culturally important species, with fish generally being identified as a resource. First Nations may identify cultural values associated with fish species as important to maintaining both tangible (physical cultural sites) and intangible (cultural knowledge) cultural heritage. Tangible cultural heritage associated with fish can include important cultural sites such as midden sites, fish traps and thalu sites. There are increase ceremonies/rituals for species of squid and octopus to enhance or maintain populations. Thalu are places where these increase ceremonies are performed.
Seabirds	Seabirds, and in particular shags, are commonly identified through literature as a culturally significant species (Malgana Land and Sea Management et al., 2021), as well as a resource (seabird eggs; Smyth, 2007).
Benthic habitats	First Nations groups identify benthic habitats as valuable for both their ecological and aesthetic values. Corals attract fish and seagrass providing shelters for fauna, as well as an important resource for dugongs.
Shoreline habitats	First Nations groups identify shoreline habitats as valuable for their ecological values, including mangroves for providing shelter to marine invertebrates, which are identified resources, and potential nursery for turtles. Literature also notes that mangroves are also valued for the flora and fauna they are associated with and support (Commonwealth of Australia, 2002) and Smyth (2007) reports that mangrove seeds are used as a resource by Ngarda-Ngarli.

12.1.4 Marine Parks

Woodside acknowledges that Commonwealth and State Marine Park Management Plans have sought to recognise cultural values and responsibilities of First Nations groups. Australian Marine Parks (AMP) describe this framework in the following way: 'when making decisions about what can occur in marine parks and what action we will take to protect AMPs, we take values into account'. AMP summarises these values as natural values, cultural values, heritage values and socio-economic values (Refer to Section 11.5).

12.1.5 Indigenous Protected Areas (IPAs)

Indigenous Protected Areas (IPAs) are areas of land and sea managed by Indigenous groups as protected areas for biodiversity conservation through voluntary agreements with the Australian Government. IPAs are an essential component of Australia's National Reserve System, which is the network of formally recognised parks, reserves and protected areas across Australia. There are currently 85 dedicated IPAs over 74 million hectares. These account for more than 50 per cent of the National Reserve System (NIAA, 2023). As of August 2024, an additional 36 Traditional Owner consultation projects to develop management plans for proposed IPAs are underway (DCCEEW, 2024c). Ten Sea Country IPA consultation projects were announced in 2022. One of these, Tujukana pa Karajarri Kura Jurrar, is in the NWMR and extends from the existing Karajarri IPA into the sea off the south-west Kimberley coast (DCCEEW, 2024c). The Indigenous Protected Areas program is administered by the National Indigenous Australians Agency in partnership with DCCEEW. Dedicated and proposed IPAs are shown in Figure 12-4.

The following IPAs are within the NWMR:

12.1.5.1 Nyangumarta Warrarn IPA

The Nyangumarta Warrarn IPA is comprised of four areas totalling approximately 28,675 km², including parts of the Great Sandy Desert, Walyarta Conservation Reserve, Kujungurru Warrarn Conservation Reserve Area and the Eighty Mile Beach Marine Park Intertidal Area. The traditional owners of the designated IPA self-identify as and are identified by other Pilbara First Nations people as Nyangumarta people. Nyangumarta people are the native title holders of the land and waters.

Ecological values in the IPA include a complex wetland system associated with Mandora Marsh, known to Nyangumarta people as Nyamaring. Walyarta (or Salt Creek). The Mandora Marsh area holds the most inland distribution of mangroves in Australia and the mound springs associated with Mandora Marsh area, such as Yalayala (Eil Eil), are recognised as important bird nesting sites (NWAC and YMAC, 2015).

12.1.5.2 Karajarri IPA

Karajarri Indigenous Protected Area (IPA) was dedicated in 2014, to manage, protect and enhance Karajarri country. The IPA covers nearly 25,000 km² of land in the southern Kimberley, including 130 km of coastline stretching from Gordon Bay to Cape Missiessy. It comprises extensive coastlines, tidal creeks and wetlands as well as arid country that stretches into the Great Sandy Desert (NIAA, n.d.).

Karajarri people want to ensure areas of cultural and natural significance are looked after correctly according to their own protocols, and they view their environmental responsibilities as Palanapayana Tukjana Ngurra meaning “everybody looking after country properly” (KTLA, 2014a).

The IPA includes two different zoning categories to help manage country: IUCN Category 2 (National Park) and Category 6 (Protected area with sustainable use of resources). The category 2 zoning allows for the area to become part of an integrated system of protected areas with Eighty-mile beach to the south and Roebuck Bay to the north of the IPA (KTLA, 2014a).

To assist in the planning and development of the IPA, the Karajarri Traditional Lands Association (KTLA) developed a Healthy Country Plan, which provides direction for addressing threats and for working on priorities for land and cultural site management (KTLA, 2014b).

The Tukujana pa Karajarri Kura Jurrar IPA has been announced under the Sea Country IPA Program, extending from the existing Karajarri IPA into the sea off the south-west Kimberley coast (DCCEEW, 2023b). The area includes a network of coastal habitats, such as intertidal and subtidal reefs, mangrove systems, lagoons and tidal creeks, and connects the Ramsar sites of Roebuck Bay and Eighty-mile Beach (DCCEEW, 2023b).

12.1.5.3 Yawuru IPA

The Yawuru IPA was dedicated by Yawuru people in 2017, covering 2109 km² of Yawuru coastal and inland country (YRNTBC, 2014). The Yawuru people are the Native Title holders of their land and sea—their ancestors have lived along the foreshores of Roebuck Bay, across the Pindan Plains and inland along the fringes of the Great Sandy Desert for thousands of years (NIAA, n.d.-a).

The Yawuru IPA is managed under the Walyjalajala nagulagabu birrangun buru Plan of Management for 2017-2026 (YRNTBC, 2014). The plan includes eight targets for management, being:

- Yawuru cultural knowledge and practice
- Yawuru significant areas
- Yawuru rights and responsibilities
- Niyamarri – sand dunes

- Bilarra – wetlands
- Birra – bush and pindan country
- Nagulagun – saltwater country (deep water and intertidal)
- seasonal resources and biodiversity.

Cultural values include Yawuru named sites, tracks and areas, historical sites associated with pearling and pastoral industries, archaeological sites and traditional bush/sea resources. Ecological values include reefs and seagrass beds that provide habitat for dugongs (*Dugong dugon*) and EPBC Act-listed threatened sea turtle species including hawksbill turtle (*Eretmochelys imbricata*), loggerhead turtle (*Caretta caretta*), green turtle (*Chelonia mydas*) and flatback turtle (*Nataden depressus*). Roebuck Bay is a Ramsar site and has a known population of snubfin dolphins (*Orcaella heinsohni*) (Figure 7-6). Other ecological values include pearl shell beds for pearl oysters and habitat for a range of EPBC Act listed threatened species (YRNTBC, 2014).

12.1.5.4 Bardi Jawi IPA

Bardi Jawi IPA is located 160 km north of Broome and covers 1269.9 km² of land and sea country (NIAA, n.d.-b). The main communities on Bardi country are Djarindjin, Lombadina and Ardyaloon (One Arm Point). Bardi people live on the mainland of the Dampier Peninsula and islands immediately offshore from Ardyaloon. Jawi people call the islands further east, including Iwany (Sunday Island), their traditional country. Today people live in outstations spread along the mainland Peninsula coastline (KLC/BJNAC RNTBC, 2013).

During the IPA consultation process, The Bardi Jawi rangers guided meetings with individual family groups to identify what they considered important to look after. An IPA steering committee was formed, who contributed cultural knowledge to the Bardi Jawi Indigenous Protected Area Management Plan (2013–2023). They were assisted by The Nature Conservancy in Conservation Action Planning (CAP). This plan highlights targets to be protected on country:

- marnany (fringing reefs)
- aarli (fish)
- odorr (dugong) and goorlil (turtle)
- significant sites, language, law and culture
- traditional oola (water) places
- indigenous plant resources (KLC/BJNAC RNTBC, 2013).

Jardagarr (coastal country) is classed under IUCN Category 4, and Niimidiman (inland country) is classed under Category 6. Niimidiman harbours many plant and animal species of high cultural value. For example, Irrgil trees are used for making boomerangs and Marrga, Joolgirr and Bilimangard trees are used for making shields. Some Niimidiman areas feature traditional Oola (water) places and stories attached to these places are culturally important. Ecological values of the Jardagarr (coastal) country includes many species of native garrabal (birds), including eastern curlews and fork-tailed swifts (KLC/BJNAC RNTBC, 2013).

12.1.5.5 Dambimangari IPA

Dambimangari IPA is located between Broome and Darwin, stretching east to the Prince Regent area. It covers 6,422.94 km² of landscape, including open grasslands, eucalyptus woodlands, intertidal flats and rocky reefs and shoals (NIAA, n.d.-c). Dambimangari is the traditional home of the Worrarra people. Dambimangari peoples' identity is interwoven with the sea and its reefs and islands. Reefs are important hunting grounds for jaya (saltwater fish) and warliny (dugong).

The targets for protection are identified in the Dambimangari Healthy Country Plan 2012–2022 as:

- cultural sites
- reefs, beaches and islands
- saltwater fish
- turtle and dugong
- whales and dolphins
- rivers, waterholes, waterfalls and wetlands (freshwater systems)
- culturally important native animals
- bush fruits and medicine plants
- right-way fire (DAC, 2012).

Jurluwarra (saltwater-turtle) and warliny (dugong) are culturally important to Dambimangari people as a food source. Cultural sites include rock art sites, stone arrangements, burial sites and important camping beaches that were used for resting when travelling through saltwater country (DAC, 2012).

12.1.5.6 Uunguu IPA

Stage one of the Uunguu IPA was declared on May 23, 2011, coinciding with the Native Title Determination and release of the Healthy Country Plan. The IPA covers 7,598.06 km². It has been home to the Wunambal Gaambara people for many thousands of years and is part of the Wanjin Wunggurr culture. Wunambal Gaambara people call their country Uunguu – ‘our living home’. Two of the reserves extend to the low water mark at Bougainville Peninsula, Vansittart Bay, Anjo Peninsula, Napier Broome Bay and islands in Rothsay Water (WGAC, 2017). A Saltwater IPA Plan of Management was created in 2017 as a sub-plan for the Wunambal Gaambara Healthy Country Plan (WGAC, 2017)²¹.

Ten targets identified in the Wunambal Gaambara Healthy Country Plan are:

- Wanjin Wunggurr Law – our culture,
- right way fire,
- aamba (kangaroos and wallabies) and other meat foods,
- Wulo (rainforest),
- Yawal (waterholes),
- bush plants,
- rock art,
- cultural places on islands,
- fish and other seafoods,
- mangguru (marine turtles) and balguja (dugong) (WGAC, 2010).

The Uunguu Rangers look after land and sea country through pest control, visitor management, cultural heritage conservation, monitoring flora and fauna and fire management (NIAA, n.d.-c).

²¹ Marine areas were proposed to be added to the Uunguu IPA as an International Union for Conservation of Nature (IUCN) Category VI (Managed Resource) Protected Area, early in 2018.

12.1.5.7 Balanggarra IPA

The Balanggarra IPA was dedicated on August 7, 2013. The IPA spans over one million hectares of land and sea country in the Kimberley region and has been home to the Balanggarra people for thousands of years. The five big rivers of the north Kimberley intersect on Balanggarra country. These rivers include the King River, Forest River, Pentecost River, Durack River and Ord River. The region also borders the Cambridge Gulf and Timor Sea. Three species of vulnerable sawfish are found in the waters of this region (Kimberley Land Council, n.d).

Nine targets identified in the Balanggarra Healthy Country Plan 2012–2022 are:

- Balanggarra law and culture
- our gra or country (land, sea, rivers, islands)
- cultural sites (rock art sites, burial sites, heritage places)
- native animals
- accessible bush tucker / medicine plants
- right way fire
- freshwater (places and freshwater fish)
- saltwater fish and seafood
- migratory saltwater species (turtle, dugong, whales, dolphins).

The Balanggarra Rangers manage 1000 km of river and sea frontage on their country to manage and protect and enhance the unique biodiversity values of their country (Balanggarra Aboriginal Corporation, 2011).

12.1.5.8 Wilinggin IPA

The Wilinggin IPA spans over 2.4 million hectares of remote country in the central north Kimberley region and was declared in 2013. It included basalt ranges and sandstone cliffs which rise 250 m high. The area has wooded grasslands, pockets of rainforest, extensive mangrove systems, tidal mudflats, rivers, creeks and billabongs. The Ngarinyin people are the traditional owners of this area and have lived on Wilinggin country for thousands of years (NIAA, n.d-d). Wilinggin Country is mostly landlocked, apart from two small saltwater areas which include Walcott Inlet and Prince Frederick Harbour.

Seven targets identified in the Wilinggin Healthy Country Plan 2023–2032 are:

- becoming strong on country
- food and medicine plants
- bushfire
- law and culture sites
- law and culture
- freshwater places
- wildlife and bush meats.

The Wungurr Rangers are caretakers of the unique natural and cultural values of Wilinggin country (Wilinggin Aboriginal Corporation, 2022).

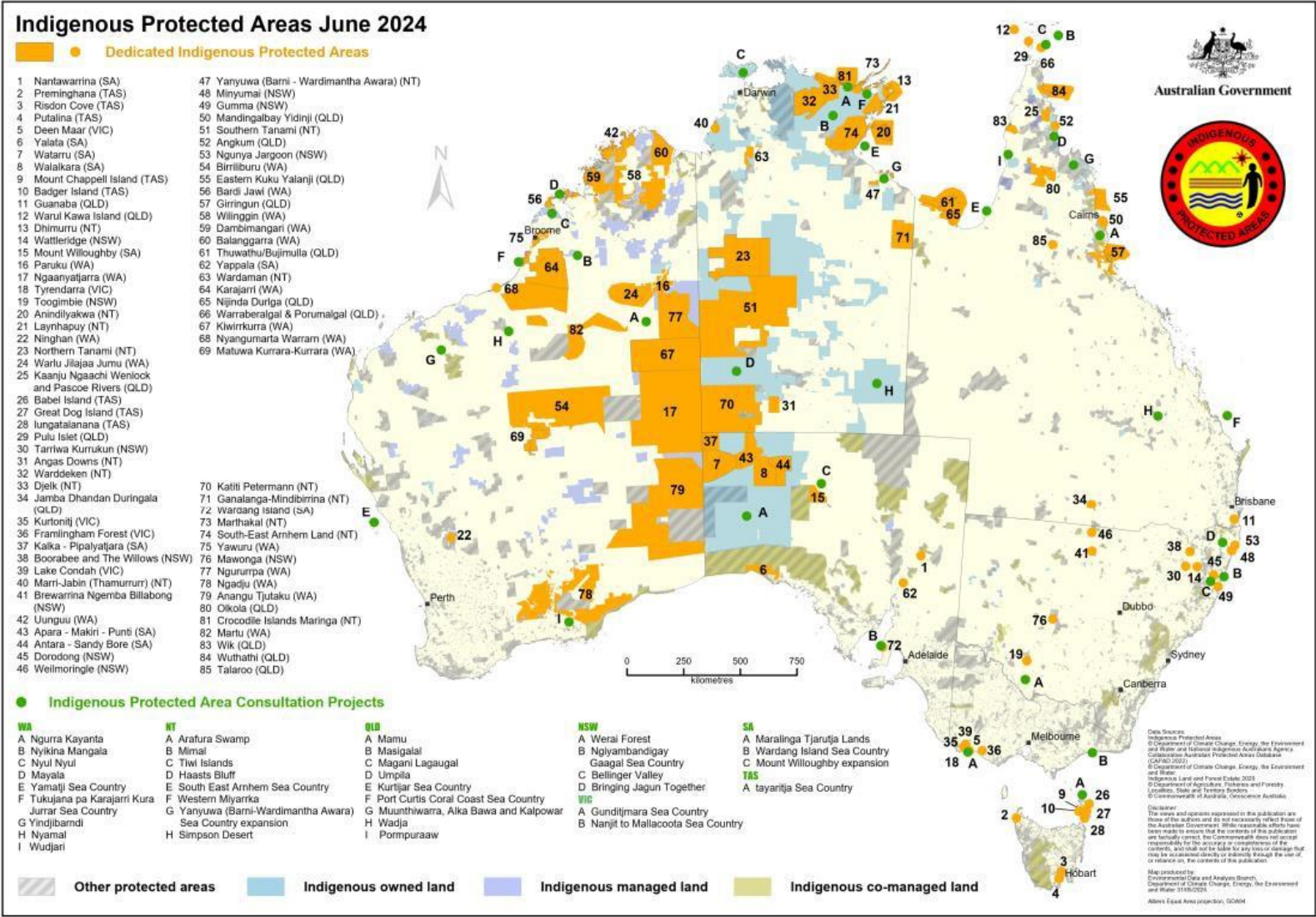


Figure 12-4: IPAs in Australia (data source: DCCEE and NIAA, 2024)

12.1.6 First Nations Cultural Heritage

Woodside understands that communal cultural connection exists between Traditional Custodians and land and waters. It is understood from the onshore archaeological record that First Nations people have occupied the Australian continent for at least 65,000 years (Clarkson et al., 2017) and in many places maintain a strong continuing connection that is said to extend back in Indigenous cosmology to the beginning of time.

Archaeological sites identified onshore with the potential to exist in intertidal or submerged locations include petroglyphs, fish traps and artefact scatters or burials contained within sand dunes. As archaeological sites, these features have archaeological value which relates to the preservation of their fabric (i.e. the tangible features) and their context (i.e. their location and relationship to other archaeological and natural features). Archaeological sites may also have intangible dimensions (ICOMOS, 2013) cultural value that exist in addition to their archaeological or scientific value.

Intangible values are a living expression of cultural heritage that is prevalent across generations. These values can be traditional, and they can also be new and living at the same time. An understanding of the intangible cultural heritage of different First Nations communities helps with intercultural dialogue and encourages mutual respect (UNESCO, 2011). Intangible cultural heritage is safeguarded through practicing and passing on knowledge or expressions by the people to whom it belongs to (NNTC, n.d). Figure 12-5 provides context to common intangible themes that exist in First Nations communities.

Table 12-2: Intangible heritage values associated with Sea Country

Value	Details
Songlines	Oral songlines are often described by First Nations people as the law of the land and make up part of the Dreaming (Neale and Kelly, 2020:30). Songlines are viewed in Western academia as a framework for relating people to land and consist of a series of invisible, interconnected routes across the landscape that mark significant sites for First Nations people (Higgins, 2021:723). Songlines demonstrate First Nations peoples' strong connections to land by revealing sacred knowledge that is place-specific (Roberts, 2023:5). The land's physical features are instrumental in maintaining songlines because this is how ancestral spirits journeyed through, and interacted with, the physical landscape leaving sacred knowledge behind. The interconnection between the physical and spiritual is where songlines become intrinsically tied to significant places across Country. As a result, geographical landforms are recorded within songlines and become sacred places. Such landforms can include inter alia: rocks, mountains, rivers, caves and hills (Higgins, 2021:724). Songlines can become lost, fragmented or broken when there is a loss of Country or forced removal from Country (Neale and Kelly, 2020:30). Physical sites that have been identified as comprising a component of a songline are important to protect to prevent the fragmenting or breaking apart of songlines and loss of sacred cultural knowledge. In Australia, songlines can stretch thousands of kilometres, making up a complex and organic network of stories containing cultural knowledge of First Nations communities across the land (Neale and Kelly, 2020:35). Songlines can also extend out to Sea Country and contain cultural knowledge that is tied to geographic features, atmospheric phenomena and marine plants and animals. Often songlines containing references to a seascape or Sea Country make mention of mythical events occurring around marine life, fishing areas, submerged rocks or coral. Songlines that embody seascapes can reflect how a group may relate to, or value, Sea Country—for example, connections to nearby islands that they once inhabited in their songlines (Smyth and Isherwood, 2016:307). Songlines can also be used as proof of long-standing connection to land and support a legal entitlement to land rights (Higgins, 2021:74). Examples where songlines contain strong references to Sea Country are more common in Pacific Islander and Torres Strait Islander communities, who often refer to seascapes and skylines in their songlines in order to communicate sacred knowledge that assists in safe navigation of the ocean (Neale and Kelly, 2020:83-84).

Value	Details
Creation/dreaming sites, sacred sites and ancestral beings	The only published sources located by Woodside with detailed descriptions of the location of ancestral beings or creation/dreaming/sacred sites place these on land, or within inland water sources such as rivers or pools. However, some ancestral beings are noted to live within or originate from the sea generally, and some creation stories talk to the creation of features from or in the sea. Additionally, every place on shore or at sea must be assumed to have been created on some level in First Nations cosmology.
Cultural obligations to care for Country	Caring for Country collectively refers to the cultural obligations of individuals and groups, as well as rituals and ceremonies required for the physical and spiritual health of the environment. In the literature reviewed by Woodside, caring for Country was noted to include, but is not limited to, maintenance of the physical environment and ecosystem. It may also have cultural, spiritual and ritual dimensions such as caring for ancestral beings or ensuring cultural safety. Thalu are places where what are known as “increase ceremonies” are performed to enhance or maintain populations of plants, animals or phenomena. All mentions of active ceremonial sites were confined to onshore locations, though the values may extend offshore where e.g., a thalu relates to marine species populations.
Knowledge of Country/customary law and transfer of knowledge	Knowledge of and familiarity with the features of Sea Country is itself a value. The inherent potential for restricted or secret knowledge makes this difficult to assess even through consultation with Traditional Custodians. However, aspects such as limitations on access to sites or disruption/relocation of First Nations communities may have implications for the preservation of First Nations knowledge. Further, connection to Country may be damaged where people are displaced or disrupted (e.g. during colonisation) or where there is a loss of technical skills or environmental knowledge (McDonald and Phillips, 2021). Transfer of knowledge includes continuing traditional practices to pass on practical skills. This transfer of knowledge may be integral to managing a group’s intangible cultural heritage (UNESCO, 2003).
Connection to Country	Describes the multi-faceted relationship between First Nations people and the landscape, which is envisioned as having personhood and spirit. It is also an aspect of personal identity for many First Nations people. In the case of Sea Country this can mean identifying as a Saltwater person, where “essence of being a 'Saltwater' person is ontological... it is about how people relate spiritually to the sea and engage with spiritual forces that created it, the marine flora and fauna and people” (McDonald and Phillips, 2021).
Access to Country, including Sea Country	Access is necessary for the continuation of other values including caring for Country, carrying out cultural practices and the transfer of traditional knowledge. Being on Country can be an important way of expressing or maintaining connection to Country (Australian Indigenous HealthInfoNet, n.d.). Access is also a value in its own right, as a continuation of traditional Sea Country access and use.
Kinship systems and totemic species	Individuals may have kinship to specific species (Smyth, 2008; Juluwarlu, 2004) and/or a responsibility to care for species (Muller, 2008). Kinship arises from totemic associations within First Nations “skin group” systems. It is forbidden for an individual to kill or eat a species who is from the same “skin group” (Juluwarlu, 2004). They may also have certain obligations linked to the discussion of caring for Country above. It is assumed that marine species may have kinship/totemic relationships to Traditional Custodians, but it is understood that these relationships do not prohibit people outside of that “skin group” from hunting or eating that same species (Juluwarlu, 2004).
Resource collection	A number of marine species are identified through consultation and literature as important resources, particularly as food sources (see Section 12.1.4). In addition to their immediate value as sustenance, the gathering and preparation of these resources is informed by cultural knowledge, and an inability to use these resources may result in a loss of ability to transfer that knowledge to future generations.

On 15 November 2023, the *Aboriginal Heritage Act 1972* (WA) was restored as the legislation that manages Aboriginal heritage in Western Australia (DPLH, 2024). Under section 17 of that Act it is an offence to excavate, destroy, damage, conceal or alter any Aboriginal site without authorisation. Where there is a risk of injury or desecration to a significant Aboriginal area, even where permitted under the AHA, any Aboriginal person may apply to the federal Environment Minister for a declaration under sections 9 or 10 of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) for the protection and preservation of that area.

12.1.6.1 Submerged Cultural Heritage

It is understood that the sea level has risen significantly during the 65,000 years of Indigenous occupation, and areas that were once inhabited are now submerged on the continental shelf (Veth et al., 2019; UWA, 2021). At its lowest level during Indigenous occupation, the sea level was between 125 m (O’Leary et al., 2020; Veth et al., 2019; Williams et al., 2018) and 130 m below current levels (Benjamin et al., 2020; Benjamin et al., 2023; UWA, 2021).

Archaeological material preserved on the Ancient Landscape has the potential to provide further information about the earliest periods of human occupation (Veth et al., 2019; UWA, 2021).

Recent archaeological discoveries demonstrate that the now submerged landscape was occupied and inhabited, and can retain archaeological material from this time (Benjamin et al., 2020; Benjamin et al., 2023; see Ward et al., 2022 for an opposing view).

Certain landscapes have been identified as archaeologically prospective on the submerged Ancient Landscape, including:

- submerged water sources (rivers, waterholes, tidal channels and seeps) which have an increased likelihood of use or habitation as past generations used the associated resources (UWA, 2021)
- submerged calcarenite ridges younger than human occupation of the continent which may have formed over and protected artefacts in-situ (Veth, 2019)
- prominent landscape features (e.g. hills, particularly of igneous rock formations) that may have been foci for cultural activity (UWA, 2021)
- karst depressions and other “catch points” where artefacts may accumulate following disturbances caused by inundation (UWA, 2021; Nutley, 2022; Nutley, 2023a)
- Madeleine Shoals has been specifically identified by Murujuga Aboriginal Corporation (MAC) as an archaeologically prospective feature due to its igneous rock formations which have the potential to contain petroglyphs.

The sites considered most likely to survive inundation, based on the review of existing literature, were logically the more robust forms including:

- midden and artefacts within cemented dunes, relict water holes, and beach rock deposits
- quarry outcrops, extraction pits, and associated reduction debris in fine-grained volcanic outcrops
- curvilinear stone structures and standing stones sitting on volcanic pavements and jammed into volcanic rock piles
- lag deposits of artefacts and possibly midden on hardpan in suitable landscape contexts with good preservation conditions (e.g. shallow declination shorelines in sheltered passages of the inner archipelago or on the leeward side of hard-rock/fringing reef cause-ways adjacent to the outer islands)
- small overhangs and shelters with preserved deposits, facing away from the dominant wave and wind action (Veth et al., 2019).

In recognition of this, Woodside considers the Ancient Landscape between the mainland and the ancient coastline KEF as an area where potential First Nations archaeological material may exist on the seabed, as this covers the full extent of this possible occupation. Known places including archaeological sites may be protected subject to declarations under the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*, *Underwater Cultural Heritage Act 2018* or EPBC Act. However, these Acts only extend protection to First Nations heritage places specified by declaration or otherwise included on a statutory list. Woodside understands that there is currently no First

Nations archaeology known to exist anywhere within Commonwealth waters and no areas subject to declarations or prescriptions under these Acts.

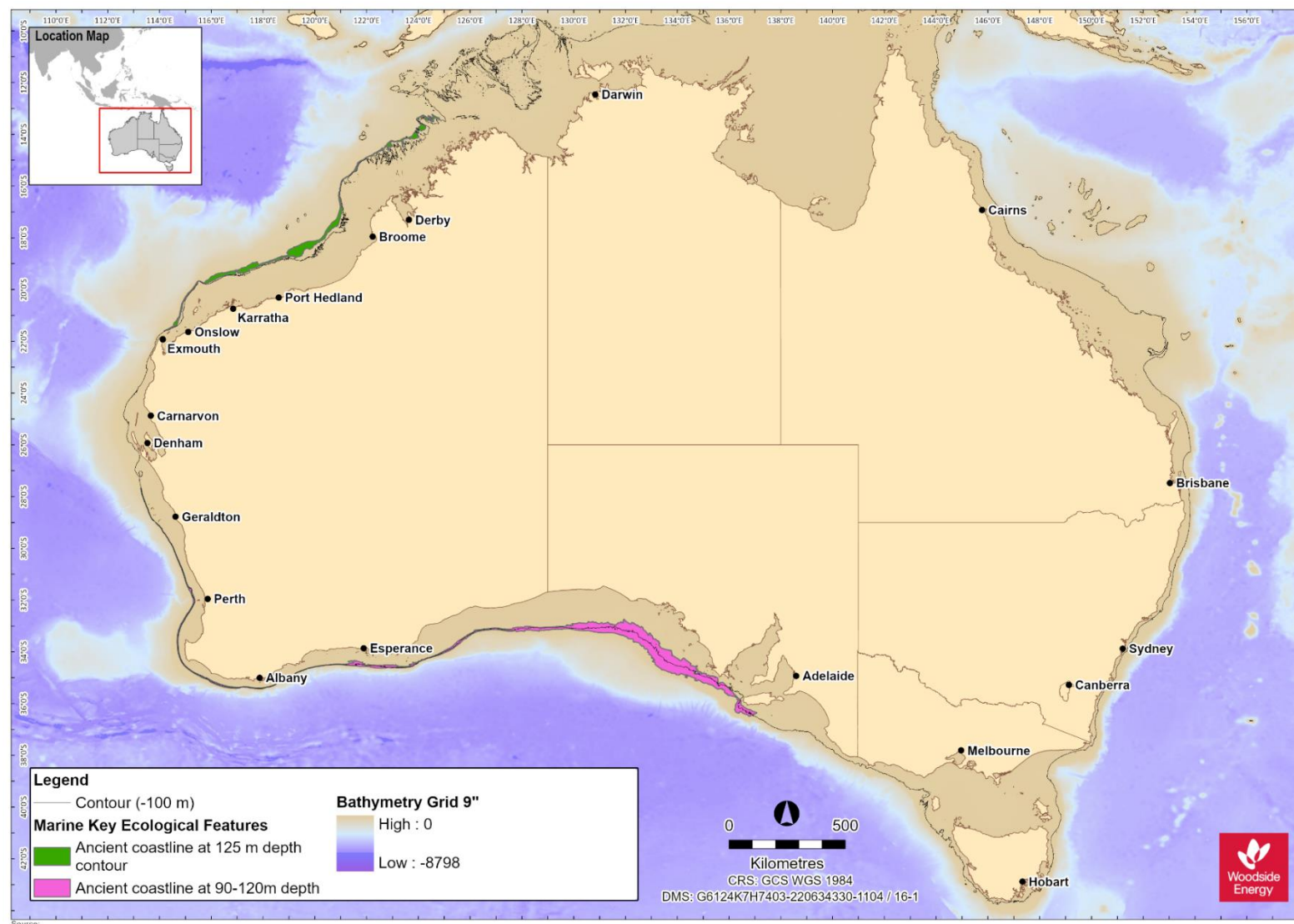


Figure 12-5: Indicative bathymetry of the ancient submerged landscape (data source: GA, 2024; DCCEEW, 2024d)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: G2000RH1401743486

Revision: 2

Woodside ID: 1401743486

Page 287 of 373

Uncontrolled when printed. Refer to electronic version for most up to date information.

12.1.6.2 First Nations Sites of Significance

Murujuga (the Burrup Peninsula) has a very high density of significant Indigenous heritage sites and places with tangible and intangible heritage values. The area has one of the largest, densest, and most diverse collections of rock art in the world. It is estimated that the peninsula and surrounding islands contain over a million petroglyphs (rock engravings) covering a broad range of styles and subjects. The landscape also contains quarries, middens, fish traps, rock shelters, ceremonial sites, artefact scatters, grinding patches and stone arrangements that evidence tens of thousands of years of human occupation. These places are linked to First Nations cosmology, Dreaming stories and songs through the stories, knowledge and customs that are still held by Traditional Custodians.

In 2007 the Dampier Archipelago (including the Burrup Peninsula) was included on the National Heritage List due to outstanding heritage values relating to Australia's cultural history contained in the large number, density, diversity, distribution and fine execution of rock art. Within the National Heritage Place, the Murujuga National Park covers 4913 ha and is co-managed by the Murujuga Aboriginal Corporation and the Department of Biodiversity, Conservation and Attractions. The Murujuga Cultural Landscape was also added to Australia's Tentative World Heritage List in 2020, with full World Heritage Listing anticipated in 2024.

The Department of Planning, Lands and Heritage maintains a register of registered sites and heritage places. There are over 1600 registered sites on Murujuga and the Dampier Archipelago with around 1100 other heritage places. This register is not comprehensive and will be complemented by heritage surveys where necessary. Protection of National and World Heritage values is also legislated through various provisions of the EPBC Act. Murujuga National Park is managed under the *Conservation and Land Management Act 1984* (WA).

12.1.7 Historic Sites of Significance

Places of historic cultural significance are protected under Commonwealth, State and local regimes. Places inscribed on the National or World Heritage list are protected through various provisions of the EPBC Act. Historic places may also be protected under the *Heritage Act 2018* (WA); under section 129 of this Act the prohibited alteration, demolition, damage, despoilment or removal of objects from a registered place may result in a fine of A\$1 million. Protection of heritage by local government typically emanates from local planning schemes produced under Part 5 of the *Planning and Development Act 2005* (WA).

Historical sites of significance and heritage value are found along adjacent foreshores of the SWMR, NWMR and NWR.

12.1.8 Historic Underwater Heritage

The remains of vessels and aircraft in Commonwealth waters, along with any associated article, are automatically protected under the *Underwater Cultural Heritage Act 2018* (Cth) after 75 years. This is applicable whether the existence or location of the article is known or unknown, as per section 16 of the Act. Other articles of underwater cultural heritage may be declared for protection as outlined in section 17 of the Act. Remains and relics of any ship lost, wrecked or abandoned in Western Australian waters before 1900 are protected by the *Maritime Archaeology Act 1973* (WA).

There are no known National Heritage listed shipwrecks in the NWMR and NMR (Table 12-3 and Table 12-4). The only known National heritage listed shipwrecks are within the SWMR and include:

- the *HMAS Sydney II*
- the *HSK Kormoran*
- the *Batavia*.

Information on National Heritage listed shipwrecks in the SWMR can be found in Table 12-5.

Known historical shipwreck sites in Western Australian waters are listed in the [WA Maritime Museum Shipwreck Database](#). Known historical shipwreck sites in Commonwealth waters are listed in [Australasian Underwater Cultural Heritage Database](#). These databases only cover known historical sites. Known shipwrecks listed in these databases for the NWMR, NMR and SWMR are shown in Figure 12-6, Figure 12-7 and Figure 12-8 respectively.

12.1.9 World, National and Commonwealth Listed Heritage Places

The EPBC Act protects the heritage values of National Heritage Listed and World Heritage Listed places. Any action that will have or is likely to have a significant impact on the heritage values of these places are offences under Part 3, Division 1 of the EPBC Act unless the action is permitted under one of the mechanisms of the EPBC Act. These mechanisms include a number of exceptions set out in Part 4, approvals granted under Part 9 and ministerial decisions under Division 2 Part 7.

Australia's National Heritage Sites are those of outstanding natural, historic and/or Indigenous significance to Australia. Indigenous Protected Areas and National Heritage places classed as natural are discussed in Section 11.3. Historic and/or Indigenous National Heritage Listed Places of the NWMR and SWMR include:

- Dampier Archipelago (including Burrup Peninsula)
- Dirk Hartog Landing Site/Cape Inscription
- *HMAS Sydney II*, *HSK Kormoran* Shipwreck Sites
- *Batavia* Shipwreck Site and Survivor Camps Area 1629 – Houtman Abrolhos
- Cheetup Rock Shelter.

Commonwealth Heritage Places are a collection of sites recognised for their Indigenous, historical and/or natural values, which are owned or controlled by the Australian Government. A number of these sites are owned or controlled by the Department of Defence, as well as Government agencies relating to maritime safety, customs and communication. Commonwealth Heritage places classed as natural are discussed in Section 11.3. Listed Heritage Places in the NWMR are all natural with two related to defence activities which include:

- Yampi Defence Area (Table 11-6)
- Learmonth Air Weapons Range Facility (Table 11-6).

World Heritage Properties are those sites that hold universal value which transcends any value that may be held by any one nation. These sites and their qualities are detailed in the Convention concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention), to which Australia is a founding member. The Protected Matters Search Report (Appendix A) lists two natural World Heritage Properties in the NWMR (refer Section 11.2). There are no cultural heritage listings located within the NWMR.

Summary tables of heritage places for NWMR, SWMR and NMR are presented in Table 12-3, Table 12-4, and Table 12-5.

Table 12-3: Heritage Places (Indigenous and historic) within the NWMR

Heritage Places	Woodside Activity Area			Class	Description	Conservation Values
	Browse	NWS/S	NW Cape			
National Heritage Properties						
Dampier Archipelago (including Burrup Peninsula)	-	✓	-	Indigenous	The Dampier Archipelago (including the Burrup Peninsula) contains one of the densest concentrations of rock engravings in Australia with some sites containing thousands or tens of thousands of images.	The rock engravings comprise images of avian, marine and terrestrial fauna, schematised human figures, figures with mixed human and animal characteristics and geometric designs. At a national level it has an exceptionally diverse and dynamic range of schematised human figures some of which are arranged in complex scenes. The fine execution and dynamic nature of the engravings, particularly some of the composite panels, exhibit a degree of creativity that is unusual in Australian rock engravings.
Dirk Hartog Landing Site 1616 – Cape Inscription Area	-	-	✓	Historic	Cape Inscription is the site of the oldest known landings of Europeans on the WA coastline.	The Cape Inscription area displays uncommon aspects of Australia’s cultural history because of the cumulative effect its association with these explorers and surveyors had on growing knowledge of the great southern continent in Europe. The association of the site with these early navigators stimulated the development of the European view of the great southern continent at a time when they began to look at the world with a modern scientific outlook.
Commonwealth Heritage Properties						
None						

Table 12-4: Heritage Places (Indigenous and historic) within the NMR

Heritage Places	Class	Description	Conservation Values
<i>National Heritage Properties</i>			
None			
<i>Commonwealth Heritage Properties</i>			
None			

Table 12-5: Heritage Places (Indigenous and historic) within the SWMR

Heritage Places	Class	Description	Conservation Values
<i>National Heritage Properties</i>			
Cheetup Rock Shelter	Indigenous	Cheetup, meaning “place of the birds”, is the name of a spacious rock shelter located in Cape Le Grand National Park, about 55 km east of Esperance in WA. First Nations people associated with the place identify themselves as Nyungar/Noongar, Ngadju (shortened from Ngadjunmaia) or Mirning.	Cheetup rock shelter provides outstanding evidence for the antiquity of processing and use of cycad seeds by First Nations people. The seeds of the cycad are extremely toxic and can cause speedy death if eaten fresh without proper preparation to remove the toxins. The presence of <i>Macrozamia riedlei</i> seeds in a pit lined with Xanthorrhoea (grass tree) leaf bases indicates that First Nations people in the Esperance region had the knowledge to remove the toxins of this important source of carbohydrate and protein at least 13,200 years ago.
Batavia Shipwreck Site and Survivor Camps Area 1629 – Houtman Abrolhos	Historic	The Batavia and its associated sites hold an important place in the discovery and delineation of the WA coastline. The wreck of the Batavia, and other Dutch ships like her, convinced the VOC (Dutch East India Company) of the necessity of more accurate charts of the coastline and resulted in the commissioning of Vlamingh's 1696 voyage.	Because of its relatively undisturbed nature the archaeological investigation of the wreck itself has revealed a range of objects of considerable value as well as to artefact specialists and historians.

Heritage Places	Class	Description	Conservation Values
HMAS Sydney II and HSK Kormoran Shipwreck Sites	Historic	The naval battle fought between the Australian warship HMAS Sydney II and the German commerce raider HSK Kormoran off the WA coast during World War II was a defining event in Australia's cultural history. HMAS Sydney II was Australia's most famous warship of the time and this battle has forever linked the stories of these warships to each other. The loss of HMAS Sydney II along with its entire crew of 645 following the battle with HSK Kormoran, remains as Australia's worst naval disaster.	The shipwreck sites of HMAS Sydney II and HSK Kormoran have outstanding heritage value to the nation because of their importance in a defining event in Australia's cultural history and for their part in development of the process of the defence of Australia.
Commonwealth Heritage Properties			
Cliff Point Historic Sites	Historic	Cliff Head is a limestone bluff on the east coast of Garden Island. Evidence of occupation has been reported from the beach just north of the head, the immediate hinterland, the ridge above and on the south face of the ridge.	The Cliff Point Historic Site, individually significant within the area of Garden Island, is important as the first site inhabited by Governor Stirling's party in 1829 when founding the colony of WA, and as WA's first official non-convict settlement. The site was occupied in the first instance by Captain Charles Fremantle before the arrival of Captain Stirling. The party occupied the site for two months before a move was made to the Swan River settlement on the mainland.
HMAS Sydney II and HSK Kormoran Shipwreck Sites	Historic	As above.	As above.
J Gun Battery	Historic	J Battery comprised two 155 mm long range guns, the other similar battery being at Cape Peron on the mainland at the entrance to Cockburn Sound. Located in the dune systems at the north-western corner of Garden Island, elements of the J Battery complex are now covered in part by sand.	J Gun Battery (1942) is individually significant within the area of Garden Island (Register No. 019544) and is historically important as the first gun battery constructed on Garden Island and as one of two long range gun batteries which played a strategic role in the coastal defences of Cockburn Sound and Fremantle following the entry of Japan into the Second World War (1939–45).

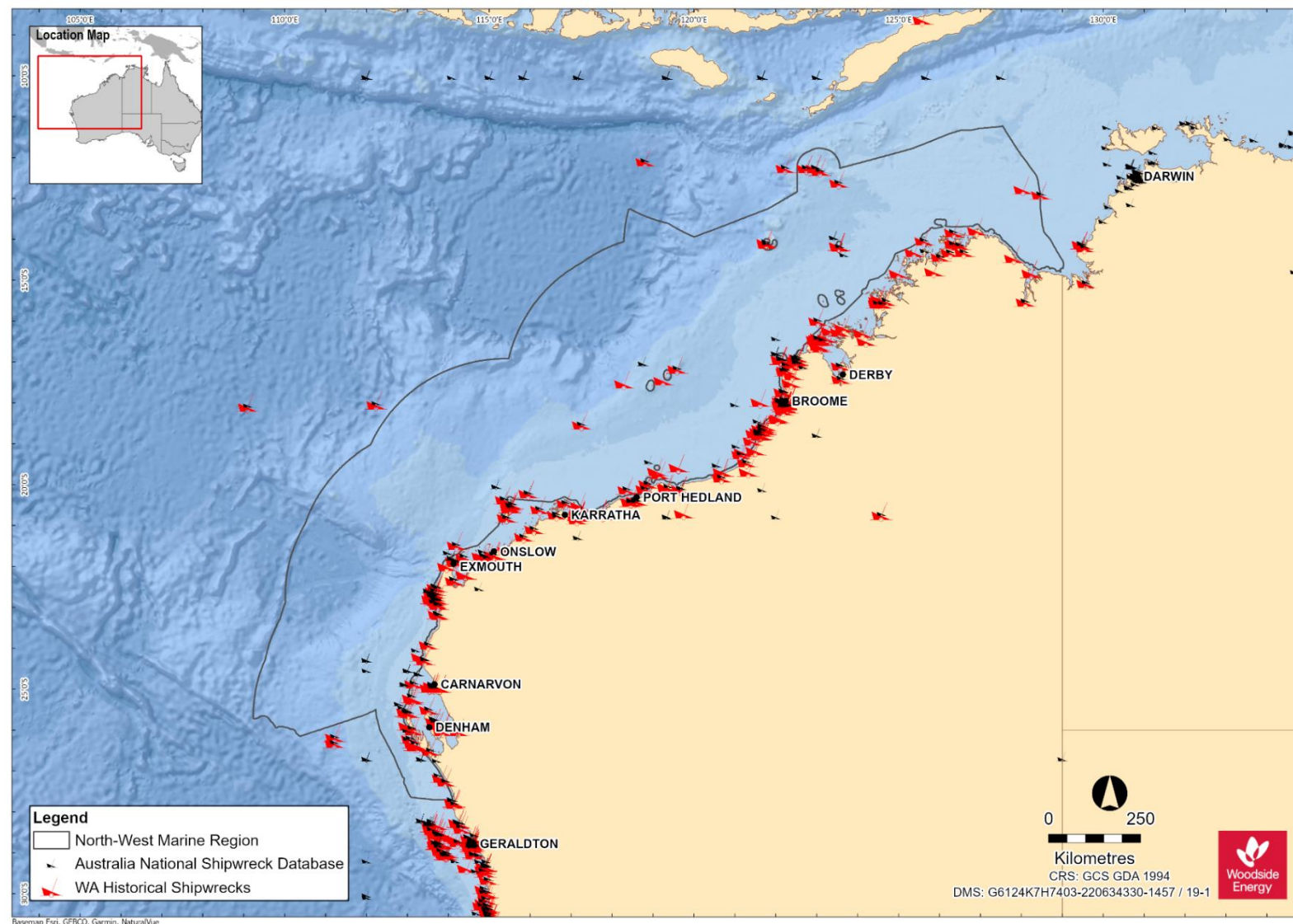


Figure 12-6: Shipwrecks in the NWMR (data source: WAM, 2018 and AODN, 2008)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

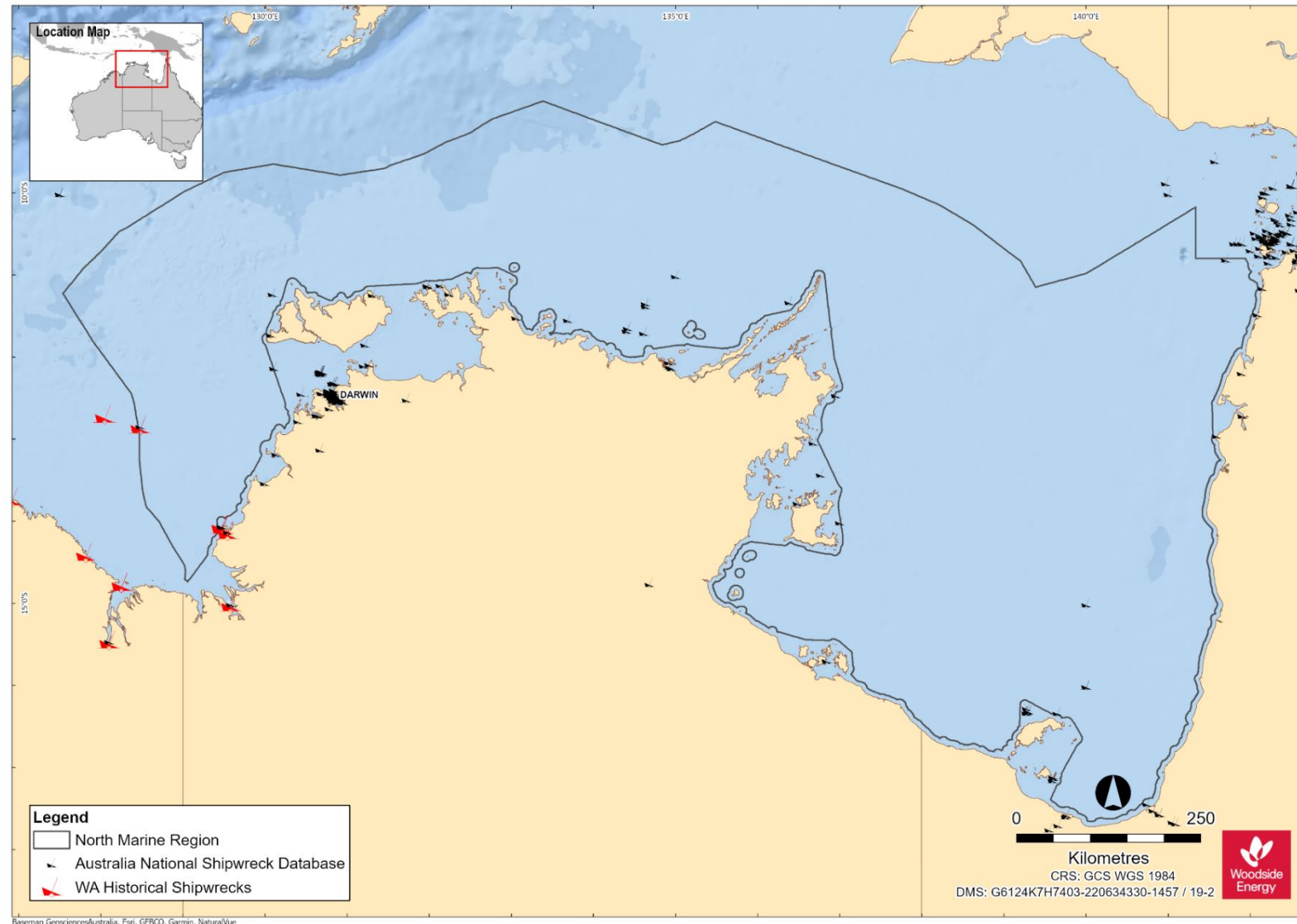


Figure 12-7: Shipwrecks in the NMR (data source: WAM, 2018 and AODN, 2008)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

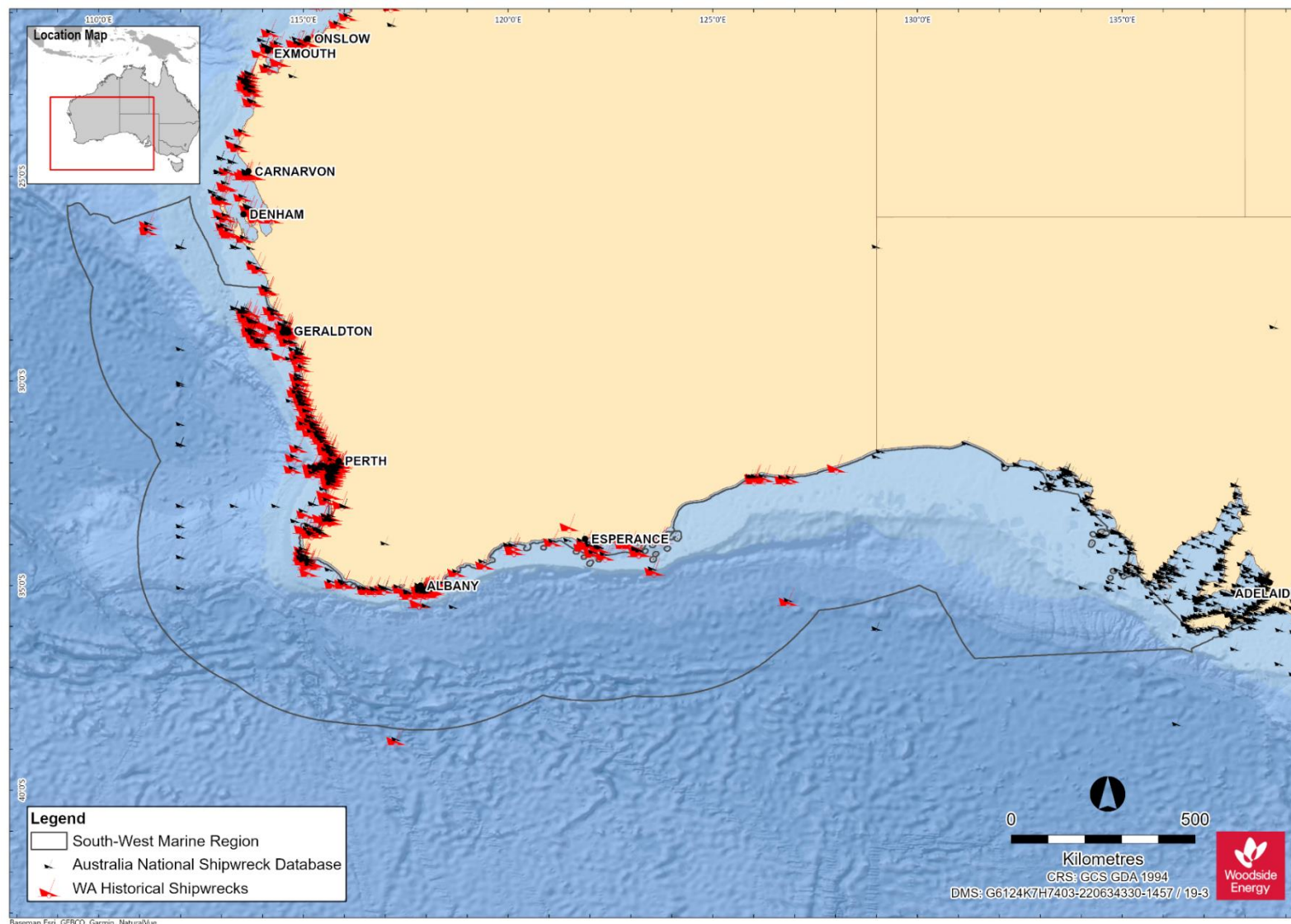


Figure 12-8: Shipwrecks in the SWMR (data source: WAM, 2018 and AODN, 2008)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

12.2 Socio-Economic Values

Socio-economic values include commercial and traditional fishing, tourism and recreation, shipping, oil and gas activities and defense activities.

12.2.1 Commercial Fisheries – Commonwealth and State

The Australian Fisheries Management Authority (AFMA) manages fisheries on behalf of the Commonwealth Government and is bound by objectives under the *Fisheries Management Act 1991* (Cth).

WA State commercial fisheries are managed by the WA Department of Primary Industries and Regional Development (WA DPIRD) under the *Fish Resources Management Act 1994* (WA), *Fisheries Resources Management Regulations 1995* (WA), relevant gazetted notices and licence conditions, and applicable Fishery Management Plans.

Commonwealth and State managed fisheries that are licensed to operate within the NWMR are summarised in Table 12-6.

Table 12-6: Commonwealth and State managed fisheries

Fishery	Woodside Activity Area			Description			
	Browse	NWS/S	NWC				
Commonwealth Managed Fisheries							
Southern Bluefin Tuna Fishery	✓	✓	✓	Management area:	The Southern Bluefin Tuna Fishery covers the entire EEZ around Australia, out to 200 NM from the coast. They do not fish in the Woodside activity area.		
				Species targeted		Fishing methods	Fishing depth
				Southern bluefin tuna (<i>Thunnus maccoyii</i>)		Longline, purse seine fishing, and minor line (troll and poling).	Southern bluefin tuna is a pelagic species which can be found to depths of 500 m (AFMA, 2021a).
				Fishing effort	Most of the Australian fishing effort is by purse-seine vessels in the Great Australian Bight and waters off South Australia during summer months, and by longline off the New South Wales coastline during winter months (Patterson and Dylewski, 2023a). The Southern Bluefin Tuna Fishery is shared amongst countries. Australia currently has a 35% share of the total global allowable catch. Whilst wild capture fishing in Australia to sell directly to market can occur anywhere throughout the fisheries range, currently most of that quota is value-added through ranching (on-growing the wild captured fish for an extra five to six months). Ranching requires significant infrastructure, a resident labour force, plus proximity to a fishery able to supply a large quantity of natural feed/sardines (40,000+ tonnes). North-west WA is critically important regardless of how the quota is fished because of the proximity to the single spawning ground of this global roaming species. Young fish (one to four years of age) move from the spawning ground in the north-east Indian Ocean into the Australian EEZ and southwards along the Western Australian coast (Patterson and Dylewski, 2023). The stock is classified as not overfished (Patterson and Dylewski, 2023a). A total of 5972 t bluefin tuna catch was recorded for the 2021–22 fishing season, an increase from 5646 t in the 2020–21 period (Patterson and Dylewski, 2023a). Of the total catch, 4957 t were collected using purse seine and 1015 from pelagic longline.		
				Active licences/ vessels	Eight purse seine vessels and 22 longline vessels, an increase from seven purse seine vessels and 20 longline vessels in the 2020–21 period (Patterson and Dylewski, 2023a).		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
Western Skipjack Tuna Fishery	✓	✓	✓	Management area:	The combined western and eastern skipjack tuna (<i>Katsuwonus pelamis</i>) fisheries encompass the entire Australian EEZ. The Western Skipjack Tuna Fishery extends westward from the SA/ Victorian border across the Great Australian Bight and around the west coast of WA to the Cape York Peninsula.	
				Species targeted	Fishing methods	Fishing depth
				Western skipjack tuna (<i>Katsuwonus pelamis</i>)	Fishers use purse seine gear (about 98% of catch) and sometimes pole and line when fishing for skipjack tuna.	Western skipjack tuna is a pelagic species that can be found to depths of 260 m (AFMA, 2021b).
				Fishing effort:	The Skipjack Tuna Fishery has not been actively fished since the 2008–09 fishing season (Patterson and Delewski, 2023b). The management arrangements for this fishery will be reviewed if active boats re-enter the fishery.	
				Active licences/ vessels:	No active vessels operating since 2009 (Patterson and Delewski, 2023b).	
Western Tuna and Billfish Fishery	✓	✓	✓	Management area:	The Western Tuna and Billfish Fishery extends to the Australian EEZ boundary in the Indian Ocean.	
				Species targeted	Fishing methods	Fishing depth
				Key species caught in the fishery are bigeye tuna (<i>Thunnus obesus</i>), yellowfin tuna (<i>T. albacares</i>) and swordfish (<i>Xiphias gladius</i>). Striped marlin (<i>Kajikia audax</i>) is a minor component of the catch. Catch of albacore (<i>T. alalunga</i>), a non-quota species, can approach levels similar to yellowfin tuna catch in some years (Blake et al., 2022a).	Fishers mainly use pelagic longline fishing gear to catch the targeted species. Minor line (including handline, troll, rod and reel) can also be used, and purse seine.	Species have a broad depth distribution, with tuna occurring at 150–300 m, striped marlin at 150 m and swordfish at up to 600 m (BRS, 2007).
				Fishing effort:	The fishery operates in Australia's EEZ and high seas of the Indian Ocean. Fishing effort in recent years has been concentrated off south-west WA, with occasional activity off SA (Patterson et al., 2023). A total of 145 t catch was landed in the 2021–22 seasons, a decrease from 252 t in the 2020–21 period (Patterson et al., 2023). The striped marlin, bigeye tuna, and yellowfin tuna are classified as subject to overfishing (Patterson et al., 2023).	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
				Active licences/ vessels:	Two pelagic longline and 3 minor line vessels were active during the 2021-22 season (Patterson et al., 2023).	
Western Deepwater Trawl Fishery			✓	Management area	The Western Deepwater Trawl Fishery is in deep water off WA, from the line approximating the 200 m isobath to the edge of the Australian Fishing Zone (AFZ). (Blake et al., 2021).	
				Species targeted	Fishing methods	Fishing depth
				More than 50 species, historically dominated by six commercial finfish species or species groups: - orange roughy (<i>Hoplostethus atlanticus</i>) - oreos (<i>Oreosomatidae</i>) - boarfish (<i>Pentacerotidae</i>) - eteline snapper (<i>Lutjanidae: Etelinae</i>) - apsiline snapper (<i>Lutjanidae: Apsilinae</i>) - sea bream (<i>Lethrinidae</i>).	Demersal trawl.	Water deeper than 200 m (Blake et.al., 2021).
				Fishing effort:	The number of vessels active in the fishery and total hours trawled have fluctuated from year to year. Notably, total hours trawled were relatively high for a brief period during the early 2000s when fishers targeted ruby snapper and deep-water bugs (Patterson et al., 2020). Total trawl hours have been variable but relatively low since 2005–06. In 2021–22, 76 trawl-hours were recorded in the fishery, down from a recent peak of 1108 in 2017–18 (Keller et al., 2023). The total catch was 12 t in the 2021–22 season, up from 5 t in the 2020–21 season and no deepwater bugs were caught between 2020 and 2022 (Keller et al., 2023). Ruby snapper made up 40% of the catch in 2021–22 and 31% in 2020–21 (Keller et al., 2023). Ruby snapper and deepwater bugs stock are considered not subject to overfishing but the biomass status of deepwater bugs are classified as uncertain (Keller et al., 2023).	
				Active licences/ vessels:	Since 2004–05, one to three vessels have been active in the fishery, with two active vessels in 2021–22 (Keller et al., 2023).	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
North-west Slope Trawl Fishery	✓	✓		Management area:	The North-west Slope Trawl Fishery extends from 114 °E to 125 °E, from the 200 m isobath to the outer limit of the AFZ (200 NM from the coastline, which is the boundary of the Australian EEZ).	
				Species targeted	Fishing methods	Fishing depth
				Australian scampi (<i>Metanephrops australiensis</i>) and smaller quantities of velvet and Boschma's scampi (<i>M. velutinus</i> and <i>M. boschmai</i>). A quantity of prawns is harvested each season, and squids are becoming an increasingly significant component of the catch. Mixed snappers (<i>Lutjanidae</i>) and redspot emperor (<i>Lethrinus lentjan</i>) have historically been an important component of the catch (Blake et al., 2021).	Fishing for scampi occurs over soft, muddy sediments or sandy habitats, using demersal trawl gear on the continental slope (Patterson et al., 2017).	Typically depths of 350 to 600 m (Patterson et al., 2017).
				Fishing effort:	The North-west Slope Trawl Fishery commenced in 1985 and the number of active vessels peaked at 21 in the 1986–87 season, decreasing to between 1 and 6 vessels per year since 2005-06 (Keller and Curtotti, 2023). A total catch of 85.8 t was recorded in 2021–22, a decrease from 87.05 t in 2020–21 (Keller and Curtotti, 2023). Of the total catch, the Australian scampi species comprised of approximately 33% (29 t), down from 50% (44 t) in 2020–21. The stock assessment of scampi in the fishery are classified as not subject to overfishing (Keller and Curtotti, 2023).	
				Active licences/ vessels:	Three vessels were active in the 2021-22 season, decline from 4 in the 2021-22 season, and trawl-hours decreased from 4,420 in 2020-21 to 3,950 in 2021-22 (Keller and Curtotti, 2023).	

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
Pilbara Fish Trawl (Interim) Managed Fishery		✓		Management area:	The Pilbara Trawl (Interim) Managed Fishery is a high intensity fishery divided into two zones and an area governed by Schedule 5 (prohibited to trawling). In addition to the Prohibited Trawl Fishing area, no fish trawl units are allocated for use in Zone 1 or Areas 3 and 6 of Zone 2 (which comprises six management areas) (Newman et al., 2021a).	
				Species targeted	Fishing methods	Fishing depth
				The fishery targets more than 50 scalefish species. The main demersal scalefish species landed by the fisheries in the Pilbara region are bluespotted emperor, red emperor and rankin cod (Newman et al., 2021a). The key species caught by the Pilbara Trawl (Interim) Managed Fishery include crimson snapper, bluespotted emperor trevally and threadfin bream (DPIRD, 2020).	Demersal trawl. The fishery operates with standard stern trawling gear (single net with extension sweeps) (Newman et al., 2021a).	The fishery operates in waters between 50 and 200 m water depth (Allen et al., 2014; Newman et al., 2015).
				Fishing effort:	Based on State of the Fisheries annual reports provided by DPIRD, catch trends were seen to be increasing over the past reporting years, until the past two seasons. The Pilbara Trawl (Interim) Managed Fishery catch was 1784 t in 2022, 1928 t in 2021, 2087 t in 2020, 2142 t in 2019, 1996 t in 2018, 1780 t in 2017, 1529 t in 2016, 1172 t in 2015 and 1105 t in 2014 (Wakefield et al., 2023a). The fishery landed 72% of total commercial catches of the demersal scale fish in the Pilbara in 2022. Increasing catch rates and fishing mortality spawning biomass estimates indicate that imposed effort reductions since 2008 have resulted in increased fish abundance and stock rebuilding in the fishery (Wakefield et al., 2023a). In 2021, the total catch of the indicator species red emperor in the Pilbara Demersal Scalefish Fisheries (includes trawl, trap and line sectors) was 192 t, which is within the acceptable catch range (Wakefield et al., 2023). The biological stocks for the Pilbara Demersal Scalefish Fisheries are classified as sustainable-adequate (Wakefield et al., 2023a).	
				Active licences/ vessels:	Four active vessels in the trawl sector in 2022 (Wakefield et al., 2023a).	

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
Pilbara Trap Managed Fishery		✓	✓	Management area:	The Pilbara Trap Managed Fishery covers the area from Exmouth northwards and eastwards to the 120° line of longitude, and offshore as far as the 200 m isobath. Like the trawl fishery, the trap fishery is also managed using input controls in the form of individual transferable effort allocations monitored with a satellite-based vessel management system. The fishery includes six licences allocated to three vessels, operating principally from Onslow.	
				Species targeted	Fishing methods	Fishing depths
				The catch is made up of around 45 to 50 different fish species. The fishery generally targets long-lived, high-value demersal scalefish such as red emperor and Rankin cod but also lands significant catches of shorter-lived species such as blue spotted emperor (DPIRD, 2020).	Demersal fish traps.	Approximately 30 m isobath to 200 m isobath (DPIRD. n.d.).
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The Pilbara Trap Managed Fishery caught 597 t in 2022, 662 t in 2021, 584 t in 2020, 680 t in 2019, 563 t in 2018, 573 t in 2017, 495 t in 2016, 510 t in 2015 and 268 t in 2014 (Wakefield et al., 2023a). The total catch of 597 t in 2022 made up 24% of the total catch by the Pilbara Demersal Scale Fishery and exceeded the acceptable catch range for the total catch (Wakefield et al., 2023a).	
				Active licences/ vessels:	Three active vessels in the trap sector in 2022 (Wakefield et al., 2023a).	

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
Pilbara Line Managed Fishery		✓	✓	Management area:	The Pilbara Line Managed Fishery boat licences are permitted to operate anywhere within 'Pilbara water', bounded by a line commencing at the intersection of 21° 56'S latitude and the high-water mark on the western side of the North-west Cape on the mainland of WA; west along the parallel to the intersection of 21° 56'S latitude and the boundary of the AFZ and north to longitude 120°E.	
				Species targeted	Fishing method	Fishing depths
				The Pilbara Line Managed Fishery catch is made up around 45–50 different fish species. The fishery targets similar demersal species to the Pilbara Trap and Trawl fisheries, as well as some deeper offshore species such as ruby snapper and eightbar grouper (DPIRD, 2020).	Demersal long line.	Information not available.
				Fishing effort:	Based on State of the Fisheries annual reports provided by DPIRD, catch trends are as follows: The Pilbara Line Managed Fishery caught 104 t in 2022, 124 t in 2021, 167 t in 2020, 148 t in 2019, 93 t in 2018, 143 t in 2017, 126 t in 2016, 97 t in 2015 and 40 t in 2014 (Wakefield et al., 2023a). The total catch of 104 t in 2022 made up 4% of the total catch by the Pilbara Demersal Scalefish Fishery and was within the acceptable catch range (Wakefield et al., 2023a).	
				Active licences/ vessels:	Four active vessels in 2022 (Wakefield et al., 2023a).	
Mackerel Managed Fishery	✓	✓	✓	Management area:	The commercial fishery extends from the West Coast Bioregion to the WA/NT border. There are three managed fishing areas: Area 1: Kimberley (121° E to the WA/NT border); Area 2: Pilbara (114° E to 121° E) and Area 3: Gascoyne (27° S to 114° E) and West Coast (Cape Leeuwin to 27° S) (Lewis et al., 2020).	
				Species targeted	Fishing methods	Fishing depth
				Spanish mackerel (<i>Scomberomorus commerson</i>), grey mackerel (<i>S. semifasciatus</i>), other species from the genus <i>Scomberomorus</i> .	Trolling, baits or lures cast, jigging (Lewis et al., 2020).	Information not available.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
				Fishing effort:	Most of the catch is taken from waters off the Kimberley and Pilbara coasts (Lewis et al., 2020), reflecting the tropical distribution of mackerel species (Molony et al., 2015). Most fishing activity occurs around the coastal reefs of the Dampier Archipelago and Port Hedland area, with the seasonal appearance of mackerel in shallower coastal waters most likely associated with feeding and gonad development before spawning (Mackie et al., 2003). Previous years catch based on State of the Fisheries annual reports provided by DPIRD: 212 t in 2022, 310 t in 2021, 290 t in 2020, 291 t in 2019, 214 t in 2018 (the lowest on record (Lewis et al., 2020), 283 t in 2017, 276 t in 2016, 302 t in 2015 and 322 t in 2014 (Lewis and Rynvis, 2023). The landed catch in 2021 was 238 t for Spanish mackerel and 10 t for grey mackerel (Lewis and Watt, 2023). The commercial landings for other large pelagic species, such as the amberjack and cobia were 19.7 t and 18.2 t, and other species contributed to the remaining <10 t of the total catch (Lewis and Watt, 2023). All species stocks are sustainable-adequate (Lewis and Rynvis, 2023).	
				Active licences/ vessels:	There were 16 vessels in 2022, primarily from May to November (Lewis and Rynvis, 2023).	
Marine Aquarium Fish Managed Fishery	✓	✓	✓	Management area:	The Marine Aquarium Fish Managed Fishery can operate throughout WA State waters. The fishery is typically more active in waters south of Broome and higher levels of effort around the Capes region, Perth, Geraldton, Exmouth, Dampier, and Broome (Newman et al., 2021b). There has been recent effort in the waters from Broome northwards to the NT border (Newman et al., 2023a).	
				Species targeted	Fishing methods	Fishing depth
				Finfish, hard coral, soft coral, tridacnid clams, syngnathids (seahorses and pipefish), other invertebrates (including molluscs, crustaceans, echinoderms), algae, seagrasses and 'live rock'. The resource potentially includes over 1500 species of marine aquarium fishes (Newman et al., 2021b).	The fishery is diver-based, which typically restricts effort to safe diving depths (less than 30 m).	Information not available.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
				Fishing effort: Total catch for the Marine Aquarium Fish Managed Fishery in 2022 was 98,694 fishes and invertebrates, 17.83 t of coral, live rock, and living sand, and 39 L of marine plants and live feed. (Newman et al., 2023a). In 2021, the total catch for the Marine Aquarium Fish Managed Fishery was 92,227 fishes (including syngnathids, invertebrates and sponges), 27.97 t of coral, live rock and living sand, and 42 L of marine plants and live feed (Newman et al., 2023). In 2020 was 89,925 fishes, 32.12 t of coral, live rock and living sand and <20 L of marine plants and live feed (Newman et al., 2021b). Dominant fish species caught in 2022 include spotted blenny (<i>Istiblennius meleagris</i>), scribbled angelfish (<i>Chaetodontoplus duboulayi</i>), black-axil chromis (<i>Chromis atripectoralis</i>), stripey (<i>Microcanthus strigatus</i>), Vachell's glassfish (<i>Ambassis vachellii</i>), margined coralfish (<i>Chelmon marginalis</i>), black-axil chromis (<i>Chromis atripectoralis</i>), and blue and yellow wrasse (<i>Anampses lennardi</i>) (Newman et al., 2023a). The breeding stocks of landed species are classified as sustainable-adequate (Newman et al., 2023a)		
				Active licences/ vessels: 13 licences were active in 2022 across the Marine Aquarium Fish Managed Fishery and the Hermit Crab Fishery (Newman et al., 2023a).		
Western Australian Sea Cucumber Fishery (formerly Beche-de-mer Fishery)	✓	✓	✓	Management area: Fishing occurs mostly in the northern half of WA from Exmouth Gulf to the NT border and is managed under Ministerial Exemptions. Shark Bay was fished for the first time in 2020 (Hart et al., 2023a) and again in 2021 (Newman et al., 2022).		
				Species targeted	Fishing methods	Fishing depth
				Two main species: sandfish (<i>Holothuria scabra</i>) and redfish (<i>Actinopyga echinites</i>).	Diving and wading. Collected by hand.	The targeted species typically inhabit nearshore in shallow depths.
				Fishing effort: Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The Western Australian Sea Cucumber Fishery caught 56.5 t in 2022, 41.3 t in 2021 3.6 t in 2020, 6.9 t in 2019, 62 t in 2018 (Gaughan and Santoro, 2020), 135 t in 2017, 93 t in 2016 and 38 t in 2015. In 2022, 45.2 t of the total catch consisted of sandfish (<i>Holothuria scabra</i>), 10.8 t deepwater redfish (<i>Actinopyga echinites</i>), and 0.5 t of black teatfish (<i>Holothuria whitmaei</i>) (Newman et al., 2023d). Sandfish were collected from the Kimberley only, which was last fished in 2017 (Hart et al., 2023). Deepwater redfish and black teatfish were harvested from Shark Bay (under an exception licence granted to native title holders), which was the second time this stock had been fished (Hart et al., 2023). The stock status of sandfish, in the Kimberly, and red fish species landed are considered to be sustainable- adequate, while the sandfish in the Pilbara are not sustainable – inadequate. (Hart et al., 2023f).		

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
				Active licences/ vessels:	Two operating vessels operating in 2022 (Hart et al., 2023f).	
Onslow Prawn Managed Fishery		✓		Management area:	The Onslow Prawn Managed Fishery encompasses a portion of the continental shelf off the Pilbara.	
				Species targeted	Fishing methods	Fishing depth
				Western king prawns (<i>Penaeus esculentus</i>), brown tiger prawns (<i>Penaeus esculentus</i>), blue endeavour prawns (<i>Metapenaeus endeavouri</i>).	Low opening, otter prawn trawl systems.	Fishery and or fishing activity overlaps the Beadon Creek dredging scope (Sporer et al., 2015).
				Fishing effort:	The total landings for the Onslow Prawn Managed Fishery in 2022 are not available due to data confidentiality (Wilkin, et al. 2023b). In 2021 were less than the target catch range of 60 t (Kangas et al., 2023a). 37 days of fishing took place in 2021, compared to 13 days in 2020 (Kangas et al., 2023a). The breeding stocks of banana, brown tiger, and western king prawns are considered sustainable-adequate (Kangas et al., 2023a).	
				Active licences/ vessels:	One vessel active in 2021 (Kangas et al., 2023a).	
Pearl Oyster Managed Fishery	✓	✓	✓	Management area:	The Pearl Oyster Managed Fishery is located in shallow coastal waters, designated by four zones extending from Exmouth to Kununurra and the seaward boundary demarcated by the 200 NM EEZ. The fishery is currently managed under the <i>Pearling Act 1990</i> (Hart et al., 2023b).	
				Species targeted	Fishing methods	Fishing depth
				Silver lipped pearl oysters (<i>Pinctada maxima</i>).	Drift diving.	Fishing effort is mostly focused in shallow coastal waters (10–15 m depth), with a maximum depth of 35 m (Lulofs et al., 2002).
				Fishing effort:	In 2021, catch was taken from Zones 2 and 3 only with no fishing in Zone 1, which has not been fished from 2017 to 2021 (Hart et al., 2023b). In 2022, the number of wild-caught pearl oysters was 756,531 (Hart et al., 2023d). Total dive hours increased in 2022 from 8175 hours in 2021 to 10,906 hours due to a 28% increase in harvest. (Hart et al., 2023d). Zones one to three are all considered to be sustainable – adequate (Hart et al., 2023b).	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
				Active licences/ vessels:	Six active vessels in 2022 (Hart et al., 2023b).	
Pilbara Crab Managed Fishery		✓	✓	Management area:	The Pilbara Crab Managed Fishery covers inshore waters from Onslow to Port Hedland (between longitudes 115° 5' 60" E and 120° E), with most activity around Nickol Bay (Johnston et al., 2020b). Areas of the fishery north and east of Exmouth and nearshore are currently closed as per Schedule 2 of the Draft Management Plan for the Pilbara Crab Managed Fishery (DPIRD, 2018b).	
				Species targeted	Fishing methods	Fishing depth
				Blue swimmer crab (<i>Portunus armatus</i>) (Johnston et al., 2021).	Hourglass traps (Johnston et al., 2021).	Up to 50m deep (Johnston et.al., 2020a).
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: Catch for the Pilbara Crab Managed Fishery was 11.2 t in 2022, 9.7 t in 2021, 0.6 t in 2020 and 19.3 t in 2019 (Johnston et al., 2023a). The total catch in 2021 was a substantial increase from the 2.1 t caught in 2020, which was the lowest landed catch in 20 years (Johnston et al., 2023a). In 2022 the blue swimmer crab catch accounted for 2% of the State commercial catch, all taken by the fishery (Johnston et al., 2023a). The blue swimmer crab stock status is considered sustainable – adequate (Johnston et al., 2023a).	
				Active licences/ vessels:	No information available currently.	
South West Coast Salmon Managed Fishery	✓	✓	✓	Management area:	The South-west Coast Salmon Managed Fishery operates on various beaches south of the metropolitan area and includes all WA waters north of Cape Beaufort except Geographe Bay.	
				Species targeted	Fishing methods	Fishing depth
				Western Australian salmon (<i>Arripis truttaceus</i>).	Beach seine nets.	Information not available.
				Fishing effort:	No fishing occurs north of the Perth metropolitan area, despite the managed fishery boundary extending to Cape Beaufort (WA/Northern Territory border), as advised by WAFIC. The commercial catch for the entire West Coast Nearshore and Estuarine Finfish resource was 302.5 t in 2022. The total catch of Western Australian salmon was 82.9 t in 2022, a decrease from 88.5 t in 2021. The Western Australian Salmon stock status is considered sustainable – adequate. (Duffy et al., 2023c).	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description	
	Browse	NWS/S	NWC		
				Active licences/vessels:	The number of active vessels or licences in 2021 is unknown, however there were approximately 12 commercial fishers employed in 2018 (Duffy et al., 2023)
Specimen Shell Managed Fishery	✓	✓	✓	Management area:	The Specimen Shell Managed Fishery encompasses the entire WA coastline, but effort is concentrated in areas adjacent to the population centres such as Broome, Exmouth, Shark Bay, Geraldton, Perth, Mandurah, the Capes area and Albany (Hart et al., 2023c). There are several closed areas where the fishery is not permitted to operate. These include various marine parks and aquatic reserves, such as Ningaloo Marine Park. The Perth metropolitan area is also important because of its populations of two rare cowrie species (Hart et al., 2023c).
				Species targeted	Fishing methods
				The Specimen Shell Managed Fishery targets the collection of specimen shells for display, collection, cataloguing and sale. About 200 species of specimen shell are collected each year. There is some focus of effort on mollusc families that are most popular with shell collectors, such as cowries, cones, murexes and volutes (Hart et al., 2023c).	Collection is predominantly by hand when diving to wading in shallow, coastal waters, though in deeper water collection may be conducted by remotely operated vehicles (limited to one per licence).
				Fishing effort:	For collection by hand, (diver-based) this typically restricts effort to safe diving depths (less than 30 m). ROV collection could enable depths up to 300 m (Hart et al., 2023c).
				Active licences/vessels:	A total of 5074 specimen shells were collected in 2022, distributed over 200 species (Hart et al., 2023f). A total of 5443 specimen shells were collect distributed over 200 species in 2021 (Hart et al., 2023b). Total number of specimen shells collected in 2020 was 4258 shells, across 206 species (Hart et al., 2021c). Stocks of landed species in the Specimen Shell Managed Fishery are classified as sustainable – adequate (Hart et al., 2023f).
					An exemption for the trial of remotely operated underwater vehicles (limited to one per licence) was in place during 2021 (Hart et al., 2023c). There was a total of 30 licences in the fishery, of which 16 licences were fished in 2022 (Hart et al., 2023f). Effort in 2022 was 388 days (Hart et al., 2023f).

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
West Australian Abalone Fishery	✓	✓	✓	Management area:	The Western Australian Abalone Managed Fishery includes all coastal waters from the WA and SA border to the WA and NT border. The fishery is concentrated on the south coast and the west coast. It is divided into eight management areas. The fishery for Greenlip and Brownlip abalone operates in areas 1–4 and the Roe's abalone fishery operates in areas 1, 2, 5, 6, 7 and 8 (DoF, 2011).	
				Species targeted	Fishing methods	Fishing depth
				Greenlip abalone (<i>Haliotis laevis</i>), brownlip abalone (<i>Haliotis conicopora</i>), Roe's abalone (<i>Haliotis roei</i>).	Divers.	Distribution to 5 m depth for Roe's abalone and 40 m depth for greenlip/brownlip abalone (DOF, 2011).
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The total catch for greenlip and brownlip abalone in 2022 was 40.1 t whole weight (26.6 t greenlip and 13.5 t brownlip), (Strain et al., 2023d), an increase from 2021 which was 39 t whole weight (greenlip 25.9 t and brownlip 13.1 t) (Strain et al., 2023a). The total catch in 2021 was the lowest catch recorded for greenlip/brownlip in 53 years (Strain et al., 2023d). The Roe's abalone resource catch for 2022 was 28.9 t, a 2.6% decrease from the previous season (Strain et al., 2023c). In 2021 was 29.7 t whole weight, an increase from 18.2 t whole weight in 2020 (Strain et al., 2023a). The stock status of greenlip abalone is considered inadequate and brownlip abalone is adequate (Strain et al., 2023a). The stock status of the Roe's abalone is considered adequate (Strain et al., 2023c).	
				Active licences/ vessels:	There were 16 registered vessels in 2022 for the Greenlip and Brownlip Abalone Fishery (Strain et al., 2023d) and 21 for Roe's, however only a small proportion were active (Strain et al., 2023c).	
Western Australia Joint Authority Northern Shark Fishery	✓			Management area:	The Western Australia Joint Authority Northern Shark Fishery extends from longitude 12° 45'E to the Northern Territory border.	
				Species targeted	Fishing methods	Fishing depth
				Blacktip shark (<i>Carcharhinus tilstoni</i>), spot-tail shark (<i>Carcharhinus sorrah</i>).	Gillnets and longlines.	Information not available.
				Fishing effort:	Since 2005, 60% of the waters have been closed to finishing and limited on the number of fishing days. No catch has been reported since 2008/2009 (Braccini and Watt, 2023).	
				Active licences/ vessels:	Information not available.	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
West Coast Deep Sea Crustacean Managed Fishery	✓	✓	✓	Management area:	The West Coast Deep Sea Crustacean Managed Fishery extends north from Cape Leeuwin to the WA/NT border in water depths greater than 150 m within the AFZ.	
				Species targeted	Fishing methods	Fishing depth
				The fishery targets deepwater crustaceans: • crystal (snow) crab (<i>Chaceon albus</i>) • giant (king) crab (<i>Pseudocarcinus gigas</i>) • champagne (spiny) crabs (<i>Hypothalassia acerba</i>). Catches are dominated by crystal crabs of which 99% of their total allowable catch was landed in 2020 (How and Baudains, 2021).	Baited pots, or traps, are operated in long-lines which have between 80 and 180 pots attached to a main line marked by a float at each end.	Deeper than 150 m (and mostly at depths of between 500–800 m). Most of the commercial crystal crab catch is taken in depths of 500–800 m (WAFIC ²²).
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The total landings were 133.5 t in 2022, 155.5 t in 2021, 156.1 t in 2020, 155.7 t in 2019 and 168 t in 2018. The total landings of crustaceans in 2022 was dominated by crystal crabs (123.2 t). A further 10 t of champagne crabs and 0.1 t of giant crab were also landed in 2022 (How et al., 2023c). The stock status for crystal crab is considered adequate. However, it is likely that the stock biomass is near or below its threshold level, but above its limit level (How and Wiberg, 2023a).	
				Active licences/ vessels:	There were seven licence holders with five vessels active in 2022 (How et al., 2023c).	
Abrolhos Islands and Mid-West Trawl Fishery			✓	Management area:	The Abrolhos Islands and Mid-West Trawl Fishery operates around the Abrolhos Islands within the SWMR.	
				Species targeted	Fishing methods	Fishing depth
				Saucer scallops (<i>Ylistrum balloti</i> , formerly <i>Amusium balloti</i>).	Otter trawl.	Saucer scallops occur in inshore waters around 40 m depth at the Abrolhos Islands (Kangas et.al., 2021a).

²² <https://www.wafic.org.au/fishery/west-coast-deep-sea-crustacean-fishery/>

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The Abrolhos Islands and Mid-West Trawl Fishery did not fish in 2022 due to the stock being environmentally limited. (Wilkin et al., 2023a) The fishery landed 123.1 t meat weight (615.1 t whole weight) in 2021, 238.6 t meat	
				Active licences/ vessels:	The number of vessels is unreported. There were 10 licences in 2021 (Kangas et al., 2023b).	
Broome Prawn Managed Fishery	✓			Management area:	The Broome Prawn Managed Fishery operates off Broome and forms part of the North Coast Prawn Fishery.	
				Species targeted	Fishing methods	Fishing depth
				Western king prawn (<i>Penaeus latisulcatus</i>), brown tiger prawns (<i>Penaeus esculentus</i>), blue endeavour prawns (<i>Metapenaeus endeavouri</i>).	Low opening, otter prawn trawl systems	Trawling is generally in waters between 30 and 60 m deep, however can occur down to 100 m (DOEH, 2004).
				Fishing effort:	The DPIRD state of State of the Fisheries annual reports indicate that no fishing efforts occurred in 2022 and extremely low fishing effort occurred in 2021, 2020 and 2019 (Wilkin et al., 2023b). The stock status of western king prawns is considered sustainable – adequate (Kangas et al., 2023a).	
				Active licences/ vessels:	No boats undertook trial fishing activities in 2022 (Wilkin et al., 2023b).	
Exmouth Gulf Prawn Managed Fishery			✓	Management area:	The Exmouth Gulf Prawn Managed Fishery operates within the sheltered waters of Exmouth Gulf. The fishery occupies a total area of 4000 km ² , with only half of this area being trawled (Fletcher and Santoro, 2015).	
				Species targeted	Fishing methods	Fishing depth
				Western king prawn (<i>Penaeus latisulcatus</i>), brown tiger prawn (<i>Penaeus esculentus</i>), blue endeavour prawn (<i>Metapenaeus endeavouri</i>), banana prawn (<i>Penaeus merguinensis</i>).	The fishery uses low opening, otter prawn trawl systems (Kangas et al., 2021c).	Information not available.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
Gascoyne Demersal Scalefish Managed Fishery			✓	Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The Exmouth Gulf Prawn Managed Fishery landed 898 t in 2022, 777 t in 2021, 673 t in 2020, 821 t in 2019, 880 t in 2018, 713 t in 2017 and 822 t in 2016 (Wilkin et al., 2023c). The total catch comprised of 411 t of brown tiger prawns, 218 t of western king prawns, and 269 t of blue endeavour prawns (Wilkin et al., 2023c). Stock status of landed species is considered sustainable – adequate (Kangas et al., 2023c).	
				Active licences/ vessels:	The number of participation vessels is six. Approximately 126 people, including skippers and other crew were employed in 2022 (Wilkin et al., 2023c).	
				Management area:	The Gascoyne Demersal Scalefish Managed Fishery is located between the southern Ningaloo Coast to south of Shark Bay with a closure area at Point Maud to Tantabiddi (WAFIC ²³).	
				Species targeted	Fishing methods	Fishing depth
				Pink snapper (<i>Chrysophrys auratus</i>), goldband snapper (<i>Pristipomoides multidens</i>). Other demersal species caught include: - tropical snappers - emperors - cods - mulloway trevallies.	Mechanised handlines.	The target species inhabit waters deeper than 20 m (Jackson et.al., 2021a).
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The Gascoyne Demersal Scalefish Managed Fishery reported a total commercial catch of 166 t in 2022, 164 t in 2020–21, 207 t in 2019–20, 173 t in 2018–19 and 210 t in 2017–18. The total of commercial catches comprised 42 t of pink snapper, 83 t goldband snapper, and 41 t of other mixed species (Jackson et al., 2023c). The stock status for pink snapper is considered recovering, with goldband snapper considered sustainable – adequate (Jackson et al., 2023c).	

²³ <https://www.wafic.org.au/fishery/gascoyne-demersal-scalefish-fishery/>

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
				Active licences/ vessels:	Ten vessels fished during 2022, six of which fished for more than 10 days during peak pink snapper season (Jackson et al., 2023c).	
Kimberley Crab Managed Fishery (formerly Kimberley Developing Mud Crab Fishery)	✓			Management area:	Kimberley Crab Managed Fishery is one of two small trap-based crab fisheries that exist in the North Coast Bioregion between Cambridge Gulf and Broome (Gaughan and Santoro, 2018). In November 2018, the fishery transitioned from developing to fully managed (Johnston et al., 2020b).	
				Species targeted	Fishing methods	Fishing depth
				Brown mud crab (<i>Scylla olivacea</i>), green mud crab (<i>Scylla serrata</i>).	Trap. Exemption holders use crab traps and drop nets in waters adjacent to native title lands (Johnston et al., 2023).	Information not available.
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The total crab landed was 13.6 t in 2022, 9.7 t in 2021, 1.5 t in 2020, 3.2 t in 2018 and 7.4 t in 2019. In 2022, Kimberley Crab Managed Fishery landed a total catch of 2.4 t of brown mud crab represented the entire reported commercial mud crab catch (Johnston et al., 2023a). Mud crab species in the managed fishery is considered sustainable – adequate (Johnston et al., 2023a).	
				Active licences/ vessels:	There is an allocation of 1200 units (equivalent to 600 traps) to licence holders (Johnston et al., 2023). An equivalent allocation of 600 traps for commercial purposes was provided to Traditional Owner groups through the granting of non-transferable Instruments of Exemption under the <i>Fish Resources Management Act 1994</i> . Two people were employed in 2022 between August and October (Johnston et al., 2023a).	
Nickol Bay Prawn Managed Fishery		✓		Management area:	The Nickol Bay Prawn Managed Fishery operates in nearshore and offshore waters of the Pilbara region along the NWS. Trawling has been reported to occur at several locations along the Pilbara coast to the east of the Burrup Peninsula, including within the waters of Nickol Bay (Fletcher and Santoro, 2015).	
				Species targeted	Fishing methods	Fishing depth
				Banana prawn (<i>Penaeus merguensis</i>), western king prawn (<i>Penaeus latisulcatus</i>), brown tiger prawn (<i>Penaeus esculentus</i>), blue endeavour prawn (<i>Metapenaeus endeavouri</i>).	Low opening, otter prawn trawl systems.	Information not available.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
				Fishing effort: Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The Nickol Bay Prawn Managed Fishery landed 51 t in 2022, 123.4 t in 2021, 202.4 t in 2020, 254 t in 2019 and 81 t in 2018 (Wilkin et al., 2023b). Of the total landings in 2022, landings were dominated by 42 t banana prawns and 7 t brown tiger, and 2 t blue endeavour (Wilkin et al., 2023b). Fishing effort was 62 boat days, a decrease from 175 days in 2021 (Wilkin et al., 2023b). The banana prawn stock status within the Nickol Bay Prawn Managed Fishery is considered sustainable-adequate (Wilkin et al., 2023b).		
				Active licences/ vessels: There were three participating vessels in 2022 (Wilkin et al., 2023b).		
Northern Demersal Scalefish Managed Fishery	✓			Management area: The Northern Demersal Scalefish Managed Fishery is divided into two fishing areas: an inshore sector (Area 1) and an offshore sector (Area 2) (Newman et al., 2018). Area 1 permits line fishing only, between the high-water mark and the 30 m isobath. Area 2 permits handline, dropline and fish trap fishing methods and is further divided into zones. Zone A is an inshore area, Zone B comprises the area with most historical fishing activity, and Zone C is an offshore deep slope area representing waters deeper than 200 m (Fletcher et al., 2017).		
				Species targeted	Fishing methods	Fishing depth
				Goldband snapper (<i>Pristipomoides multidens</i>), blue-spotted emperor (<i>Lethrinus punctulatus</i>), red emperor (<i>Lutjanus sebae</i>), rankin cod (<i>Epinephelus multinotatus</i>).	Handline, dropline and fish trap.	Information not available.
				Fishing effort: Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The Northern Demersal Scalefish Managed Fishery landed 1458 t in 2022, 1544 t in 2021, 1419 t in 2020, 1507 t in 2019, and 1297 t in 2018. In 2022, the majority of the catch was landed from Zone B, with 1235 t in 2022. The 2022 catch of jobfish group (<i>Pristipomoides spp.</i>) was 552 t, 91% of which was goldband snapper (Wakefield et al., 2023a). The stock status of landed species in the managed fishery is classified as sustainable – adequate (Wakefield et al., 2023a).		
				Active licences/ vessels: Eight active vessels in 2022 (Wakefield et al., 2023a).		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
Octopus Interim Managed Fishery	-	-	-	Management area:	The Octopus Interim Managed Fishery operates from Kalbarri Cliffs in the north to Esperance in the south.	
				Species targeted	Fishing methods	Fishing depth
				<i>Octopus djinda</i> , which is closely related to <i>Octopus tetricus</i> .	Primary method is baited octopus trap (combination of active trapping via trigger mechanisms, and passive trapping – shelter traps) (Hart et al., 2023d).	In inshore waters to a depth of 70 m (DPIRD, 2018a).
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: Commercial catch for the Octopus Interim Managed Fishery was 744 t in 2022, 487 t in 2021, 254 t in 2020, 453 t in 2019, 314 t in 2018, 257 t in 2017 and 252 t in 2016 (Hart et al., 2023g). In 2022, the total catch of octopus was 744 t live weight, which was 53% higher than 2021 with a total catch of 487 t (Hart et al., 2023g). Octopus stock status in 2022 is considered sustainable-adequate (Hart et al., 2023g).	
				Active licences/ vessels:	27 active vessels in 2022 (Hart et al., 2023g).	
Shark Bay Beach Seine and Mesh Net Managed Fishery	-	-	-	Management area:	The Shark Bay Beach Seine and Mesh Net Managed Fishery operates from Denham.	
				Species targeted	Fishing methods	Fishing depth
				Whiting (yellowfin <i>Sillago schomburgkii</i>), sea mullet (<i>Mugil cephalus</i>), tailor (<i>Pomatomus saltatrix</i>), western yellowfin bream (<i>Acanthopagrus australis</i>).	Beach seine and mesh net.	Information not available.
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: Total catch was 131 t in 2022, 135 t in 2021, 171 t in 2020, 175 t in 2019 and 176 t in 2018. Of the total catch in 2022, 78 t consisted of whiting, 25 t of sea mullet, 16 t of western yellowfin bream, 6 t of tailor, and 1.5 t of pink snapper (Jackson et al., 2023b). The stock status of targeted species is sustainable - adequate (Jackson et al., 2023b).	
				Active licences/ vessels:	Five vessels were active in 2022 (Jackson et al., 2023b).	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
Shark Bay Crab Managed Fishery	-	-	-	Management area:	The Shark Bay Crab Managed Fishery operates within the NWMR. It is based primarily in Carnarvon but operates throughout the waters of Shark Bay.	
				Species targeted	Fishing methods	Fishing depth
				Blue swimmer crab (<i>Portunus armatus</i>)	Trap and trawl.	Information not available.
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The fishery landed 401 t in 2022, 549 t in 2020–21, 638 t in 2019–20, 529 t in 2018–19 and 518 t in 2017–18. The fishery closed for a period of 18 months in 2012 and 2013 to promote stock recovery, following a series of adverse environmental conditions between 2010 and 2011 (Chandrapavan et al., 2023). Limited commercial fishing resumed under a national quota management system between 2013 and 2017 (Chandrapavan et al., 2023). The current stock status is sustainable-adequate (Chandrapavan et al., 2023).	
				Active licences/ vessels:	In the trawl sector in 2022 there were 10 licenced vessels based in Carnarvon with an additional eight vessels traveling to Carnarvon. There were three trap vessels (Chandrapavan et al., 2023a).	
Shark Bay Prawn and Scallop Managed Fishery	-	-	-	Management area:	The Shark Bay Prawn Managed Fishery is the highest producing WA fishery for prawns. The Shark Bay Scallop Managed Fishery is usually Western Australia's most valuable scallop fishery (Kangas et al., 2021b).	
				Species targeted	Fishing methods	Fishing depth
				Western king prawn (<i>Penaeus latissulcatus</i>), brown tiger prawn (<i>Penaeus esculentus</i>), endeavour prawns (<i>Metapenaeus endeavouri</i>), coral prawns (<i>Metapenaeopsis sp.</i>), saucer scallop (<i>Amusium balloti</i>).	Low-opening otter trawls.	Information not available.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
				Fishing effort: Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The Shark Bay Prawn Managed Fishery landed 831 t in 2022, 1,303 t in 2021, 1268 t in 2020, 1214 t in 2019, 1091 t in 2018 and 1608 t in 2017. Of the total landings, 503 t comprised of western king prawn, 326 t of brown tiger prawn, and 2 t of blue endeavour prawn (Wilkin et al., 2023d). The Shark Bay Scallop Managed Fishery has been managed under a quota management framework since the fishery reopened in 2015 (Kangas et al., 2021b). Scallop landings for Shark Bay were 35 t (177 t meat weight) in 2022, 123.6 t meat weight (618.2 t whole weight) in 2021, 177.1 t meat weight (885.5 t whole weight) in 2020 and 339 t meat weight (1,694 t whole weight) in 2019. All stocks for target species are considered sustainable-adequate (Wilkin et al., 2023a).		
				Active licences/ vessels: In the trawl sector in 2022 there were 10 licenced vessels based in Carnarvon with an additional eight vessels traveling to Carnarvon (Wilkin et al., 2023d). In the Shark Bay Scallop Managed Fishery there are boats licensed to take scallops (11 Class A licences) and boats that also fish for prawns (18 Class B licenses). There were eight vessels (Wilkin et al., 2023a).		
South Coast Crustacean Managed Fishery	-	-	-	Management area: The South Coast Crustacean Managed Fishery comprises four fisheries: the Windy Harbour/Augusta Rock Lobster Managed Fishery, the Esperance Rock Lobster Managed Fishery, the Southern Rock Lobster Pot Regulation Fishery and the South Coast Deep-Sea Crab Fishery.		
				Species targeted	Fishing methods	Fishing depth
				Southern rock lobster (<i>Jasus edwardsii</i>), western rock lobster (<i>Panulirus cygnus</i>), giant crab (<i>Pseudocarcinus gigas</i>), crystal crab (<i>Chaceon albus</i>), champagne crab (<i>Hypothalassia acerba</i>).	Pots.	Information not available.
				Fishing effort: Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The South Coast Crustacean Managed Fishery reported a total catch of 23.8 t in 2022, 27.4 t in 2020–21, 52.5 t in 2019–20, 67.5 t in 2018–19 and 101.2 t in 2017–18 season. In 2022, the total crustacean landings comprised of champagne crabs (3.6 t), southern rock lobster (6.4 t), giant crabs (5.7 t), western rock lobster (5 t), and crystal crabs (3.1 t) (How et al, 2023d). The stock status is sustainable – adequate (How and Wiberg, 2023b).		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description	
	Browse	NWS/S	NWC		
				Active licences/ vessels:	The South Coast Crustacean Managed Fishery is based on mobile vessels that employ a skipper and one to three crew. In 2022, there were nine participating vessels (How et al, 2023d).
South Coast Purse Seine Managed Fishery	-	-	-	Management area:	The South Coast Purse Seine Managed Fishery is active in coastal waters between Cape Leeuwin and the South Australia border. Landings are primarily off Albany, Bremer Bay and Esperance (Norriss and Blazeski, 2020). The managed fishery has five management zones: centred on King George Sound (Zone 1), Albany (Zone 2), Bremer Bay (Zone 3), Esperance (Zone 4) and a developmental zone near Cape Leeuwin (Zone 5) where catches have been negligible (Norriss and Blazeski et al., 2023a).
				Species targeted	Fishing methods
				Small pelagic finfish. Australian sardine (pilchards, <i>Sardinops sagax</i>), yellowtail scad (<i>Trachurus novaezelandiae</i>), Australian anchovy (<i>Engraulis australis</i>), scaly mackerel (<i>Sardinella lemuru</i>), maray (<i>Etrumeus jacksoniensis</i>). Entitled to take sandy sprat (<i>Hyperlophus vittatus</i>) and blue sprat (<i>Spratelloides robustus</i>), however not reported caught since 1993/94.	Purse seine nets from vessels.
				Fishing effort:	Information not available.
				Active licences/ vessels:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The South Coast Purse Seine Managed Fishery landed 1636 t in 2022, 1255 t in 2020–21, 1498 t in 2019–20, 1064 t in 2018–19 and 2168 t in the 2017–18 season. The total catch in 2022, consisted of >99% of Australian sardines (Norriss and Blazeski et al., 2023c). Fishing effort in 2022 was 576 boat days (Norriss and Blazeski et al., 2023c). The stock status for the Australian sardine is considered sustainable – adequate (Norriss and Blazeski et al., 2023c).

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
South-west Trawl Managed Fishery	-	-	-	Management area:	The South-west Trawl Managed Fishery is a multi-species fishery and includes two of WA's smaller scallop fishing grounds at Fremantle and north of Geographe Bay (Fairclough and Walters, 2018).	
				Species targeted	Fishing methods	Fishing depth
				Scallops (<i>Ylistrum balloti</i> , formerly <i>Amusium balloti</i>) and associated by-products. In years of low scallop catches, licencees may use trawl gear to target fin-fish species.	Trawl.	Information not available.
				Fishing effort:	Catch levels are unavailable for recent years. The fishery was not active in 2015 or 2016 (Fairclough and Walters, 2018). Effort in the fishery is highly variable and typically fluctuates in response to recruitment variability in saucer scallops and prawns. In 2021 <1% of the allowable area was trawled in the South-west Trawl Managed Fishery (Kangas et al., 2023b). The stock status of scallops is considered sustainable-adequate (Wilkin et al., 2023a).	
				Active licences/ vessels:	One vessel fished in 2022 (Wilkin et al., 2023a).	
The South Coast Salmon Managed Fishery	-	-	-	Management area:	The South Coast Salmon Managed Fishery is one of two fisheries operating in the South Coast Bioregion that target nearshore and estuarine finfish.	
				Species targeted	Fishing methods	Fishing depth
				Western Australian salmon (<i>Arripis truttaceus</i>), southern school whiting (<i>Sillago bassensis</i>), Australian herring (<i>Arripis georgianus</i>), King George whiting (<i>Sillaginodes punctatus</i>), sea mullet (<i>Mugil cephalus</i>), estuary cobbler (<i>Cnidoglanis macrocephalus</i>), black bream (<i>Acanthopagrus butcheri</i>).	Beach seines, haul nets and gill nets.	Information not available.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
				Fishing effort: Previous years catch based on State of the Fisheries annual reports provided by DPIRD: Total catch for the South Coast Estuarine and Nearshore Scalefish and Invertebrates Resource was 267.6 t for 2022, 275.1 t in 2021 and 334 t in 2020. Of this, the South Coast Salmon Managed Fishery landed 48.5 t of Western Australian salmon in 2021, 76 t in 2020 and 56.5 t in 2019. The stock status of target species is sustainable-adequate (Duffy et al., 2023b).		
				Active licences/ vessels: Catch was recorded against eight licences in 2022 (Duffy et al., 2023d).		
West Coast Beach (Beach Bait Fish Net) Managed Fishery	-	-	-	Management area: Primarily active in the Bunbury areas in the SWMR, operates between 26° and 33° S.		
				Species targeted Whitebait.	Fishing methods Beach-based haul nets.	Fishing depth Information not available.
				Fishing effort: Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The total catch of whitebait in 2022 was 23.3 t, an increase from 21.3 t in 2021 (Duffy et al., 2023c). The fishery continues to be environmentally limited with stocks recovering from the 2010/11 marine heat wave (Duffy et al., 2023a). The stock status is inadequate – environmentally limited (Duffy et al., 2023c).		
				Active licences/ vessels: The number of active vessels in 2021 is unknown, however five licensees reported landings of whitebait in 2011 (Smith et al., 2011)		
				Management area: The West Coast Demersal Gillnet and Demersal Longline (Interim) Managed Fishery is part of the Temperate Demersal Gillnet and Demersal Longline Fishery, which operates between 26° and 33° S, and the Joint Authority Southern Demersal Gillnet and Demersal Longline Managed Fishery, which operates from 33° S to the WA/SA border (Braccini and Blay, 2020).		
West Coast Demersal Gillnet and Demersal Longline (Interim) Managed Fishery	-	-	-	Species targeted Gummy shark (<i>Mustelus antarcticus</i>), dusky shark (<i>Carcharhinus obscurus</i>), whiskery shark (<i>Furgaleus macki</i>). Sandbar shark (<i>C. plumbeus</i>) Scalefish are a byproduct.	Fishing methods Gillnet and longline.	Fishing depth Information not available.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
				Fishing effort: Catches of elasmobranchs and fishing effort for the Temperate Demersal Gillnet and Demersal Longline Fishery peaked during the late 1980s and early 1990s and have stabilised at lower levels in recent years (Braccini and Watt, 2021). Previous years values from State of the Fisheries annual reports provided by DPIRD: Estimated annual value to the fishery was \$0.23 million for 2021–22, \$0.17 million for 2020–21, \$0.11 million for 2019–20, \$0.2 million for 2018–19 and \$0.3 million for 2017–18. Stock status for the gummy and whiskery shark is considered sustainable – adequate, with the dusky and sandbar shark status sustainable – recovering (Braccini and Rynvis, 2023).		
				Active licences/vessels: Vessel and license data is not available. There were approximately 10 to 11 skippers and crew employed during 2020–22 period (Braccini and Rynvis, 2023).		
West Coast Demersal Scalefish Interim Managed Fishery	-	-	-	Management area: The West Coast Demersal Scalefish Interim Managed Fishery is the main commercial fishery that targets demersal species in the West Coast Bioregion. It encompasses the waters from just south of Shark Bay down to just east of Augusta and extends seaward to the 200 NM boundary. The fishery is divided into four inshore management areas and one offshore management area.		
				Species targeted	Fishing methods	Fishing depth
				The resource comprises over 100 species, including: • baldchin groper (<i>Choerodon rubescens</i>) • dhufish (<i>Glaucosoma hebraicum</i>) • pink snapper (<i>Pagrus auratus</i>).	Lines.	Information not available.
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The West Coast Demersal Scalefish Interim Managed Fishery retained 240 t in 2022, 259 t in 2021, 227 t in 2020, 254 t in 2019 and 230 t in 2018. Management commenced to recover stocks for the West Coast Demersal Scalefish Resource in 2008. Landings since 2008 have been below the stock recovery benchmark of 450 t (Fisher et al., 2023a).	
				Active licences/vessels:	30 licenced vessels operated in 2022 (Fisher et al., 2023a).	

Fishery	Woodside Activity Area			Description		
	Browse	NWS/S	NWC			
West Coast Purse Seine Managed Fishery	-	-	-	Management area:	Most of the catch in the West Coast Purse Seine Managed fishery are taken from between Cape Leeuwin and Geraldton. This region is separated into three zones (Northern Development Zone, Perth Metropolitan, and Southern Development zone (Norriss and Blazeski, 2023b).	
				Species targeted	Fishing methods	Fishing depth
				Small pelagic finfish such as: • scaly mackerel (<i>Sardinella lemuru</i>) • pilchards (<i>Sardinops sagax</i>) • Australian anchovy (<i>Engraulis australis</i>) • yellowtail scad (<i>Trachurus novaezelandiae</i>) • maray (<i>Etrumeus teres</i>)	Purse seine.	Information not available.
				Fishing effort:	Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The total combined catch taken by the West Coast Purse Seine Managed Fishery and developmental licencees was 259 t in 2022, 504 t in 2021, 493 t in 2020, 527 t in 2019 and 340 t in 2018. In 2022, the total catch consisted of 66% scaley mackerel and 31% Australian sardine (Norriss and Blazeski, 2023d). Both the scaley mackerel and Australian sardine have a stock status classified as sustainable – adequate (Norriss and Blazeski, 2023d).	
				Active licences/ vessels:	Five active vessels in 2022 (Norriss and Blazeski, 2023d).	
West Coast Rock Lobster Managed Fishery			✓	Management area:	The West Coast Rock Lobster Fishery operates from Shark Bay south to Cape Leeuwin. The fishery is managed using zones, seasons and total allowable catch. The recreational fishery targets the western rock lobsters using baited pots and by diving between North-west Cape and Augusta.	
				Species targeted	Fishing methods	Fishing depth
				Western rock lobster (<i>Panulirus cygnus</i>).	Baited pots.	Information not available.

Fishery	Woodside Activity Area			Description	
	Browse	NWS/S	NWC		
				Fishing effort: Previous years catch based on State of the Fisheries annual reports provided by DPIRD: The total catch for the West Coast Rock Lobster Fishery was 6342 t in 2022 (De Lestang and Walsh, 2023). Due to COVID-19 related logistics and marketing issues, the 2020–21 season was extended from 12 to 18 months. Since the current extended season is still in progress, data has been reported on a 12-month period (15 Jan 2021 to 14 Jan 2022) (How and Wiberg, 2023a). Landings for the 12-month (2021–22) season was 6334 t and the 18-month 2020–21 season was 9132 t. Commercial landings over the traditional 12-month season (15 Jan 2020 to 14 Jan 2021) were 5696 t. The fishery landed 6397 t in 2019 and 6400 t in 2018 and 2017. The stock status for the western rock lobster is classified as sustainable – adequate (How and Wiberg, 2023a).	
				Active licences/ vessels: 218 vessels were active in the 2022 season (De Lestang and Walsh, 2023).	

12.2.2 Fish Habitat Protection Areas

Fish Habitat Protection Areas (FHPAs) are areas of special protection and management in Western Australian waters. They are established in areas identified as having a particular value for the protection of fish and their habitats, education and/or aquaculture and which is considered to require a higher level of protection than other parts of the marine environment (DPIRD, 2013). They are set under section 115 of the *Fish Resources Management Act 1994* (WA) for:

- the conservation and protection of fish, fish breeding areas, fish fossils or the aquatic eco-system
- the culture and propagation of fish and experimental purposes related to that culture and propagation, or
- the management of fish and activities relating to the appreciation or observation of fish.

Under the Act, fish can include a range of organisms including finfish, crustaceans, molluscs, corals, seagrass and algae at all stages of their life cycles. FHPAs and a marine reserve declared under the *Conservation and Land Management Act 1984* (WA) cannot exist in the same area (DPIRD, 2013).

Management of an FHPA is designed and carried out to achieve the purposes outlined in a Plan of Management. FHPAs may restrict non-fishing related activities, such as the use of anchors, if they are considered to be inconsistent with the purpose of the FHPA; for example, if there is a risk to damage of fragile marine formations such as coral reefs. Protection may also involve the management of human activities such as dredging, draining of wetlands, and fishing or diving near sensitive marine habitats (DPIRD, 2013). Western Australia has six FHPAs (four within the NWMR and two within the SWMR):

- Abrolhos Islands
- Kalbarri Blue Holes
- Miaboolya Beach
- Point Quobba
- Cottesloe Reef
- Lancelin Island Lagoon.

12.2.2.1 FHPAs Within the NWMR

Abrolhos Islands

The Houtman Abrolhos Islands (Abrolhos) is an archipelago of up to 210 small islands and associated reefs located approximately 65–90 km offshore from Geraldton, Western Australia (WA) (Evans et al., 2022). The Abrolhos FHPA includes all waters from the high-water mark of the Abrolhos Islands out to three nautical miles; an area of about 2500 km² (Evans et al., 2022).

The islands and waters of the Abrolhos are of significance for both land-based (e.g. seabird breeding, migratory shorebirds, carpet pythons, tammar wallabies, and significant flora and vegetation) and marine-based values (e.g. diverse and unique range of fish and marine aquatic species, significant commercial and recreational fisheries, aquaculture and marine tourism) (Evans et al., 2022). The reefs of the Abrolhos are extremely diverse, with approximately 184 species of coral, 295 species of marine algae and 389 species of fish (Evans et al., 2022).

The Abrolhos Includes specific regulations such as:

- temporal (seasonal) closures (e.g. closed season for baldchin groper, *Choerodon rubescens*, between 1 November and 31 January)

- spatial closures (e.g. Reef Observation Areas ~64.3km² or 2.6% of Abrolhos FHPA)
- recreational fishing specific bag and possession limits (Evans et al., 2022).

The marine state territorial waters of the Abrolhos continue to be managed by the Department of Primary Industries and Regional Development.

Kalbarri Blue Holes

The Blues Holes form part of an inshore coastal limestone reef system to the west of the town of Kalbarri. The northern boundary of the FHPA is located immediately west of the northern end of the Blue Holes car park and extends south from this point for approximately 420 m. The width of the FHPA varies from around 130 m wide at the southern end, to approximately 140 m wide at the northern end (DoF, 2007).

The Kalbarri Blue Holes FHPA includes part of a near-shore limestone reef system, which stretches intermittently from Red Bluff in the South to the Murchison River Mouth in the North (DoF, 2007). To First Nations people, access to the reef system – near to the river mouth – is likely to have made it a significant site for hunting fish and gathering seafood. The river mouth beside Kalbarri, is called 'Wudumalu' or 'Wutumalu' by the local Nhanda language group (DoF, 2014a).

The reef provides a base for a range of recreational activities including swimming, scuba diving and snorkelling. There is an abundance of finfish, shellfish, crustaceans, corals, seagrasses and sponges living there. There are up to 70 species of finfish, 10 types of sponge, and 11 species of coral found in the reef system (DoF, 2014a).

Regulations for protection of Kalbarri Blue Holes include:

- All marine life is protected, and no fishing activities are permitted.
- The use of all motorised vessels (boats and jet skis) is prohibited within the FHPA's waters (DoF, 2014a).

Miaboolya Beach

Miaboolya Beach is an area of the Gascoyne River delta near Carnarvon. The FHPA covers the nearshore waters and extends north to South Bejaling and south to the northern side of the Gascoyne River mouth. In addition, it includes the adjoining mangrove system, associated seasonal creeks and salt marshes (DoF, 2003).

The Miaboolya system has regional importance as a fish nursery and general fish habitat. Native fauna includes juvenile finfish species such as tailor (*Pomatomus saltatrix*), mullet (*Argyrosomus spp.*) and sand whiting (*Sillago ciliata*), and various crab species including mud crabs, blue swimmer and green mud crabs (family *Portunidae*). The fish and crab stocks use this environment for breeding, growth and development. Resident and migratory populations of birds, marine turtles and dolphins also exist within the area and contribute to its environmental value (DoF, 2003).

The Miaboolya area is of important cultural and historical value to the Gnulli native title group. The area is a place for traditional food collection and gathering for social occasions (DoF, 2003).

Recreational fishing is permitted however there are restrictions in place by the Department of Fisheries (DoF, 2014b).

Point Quobba

The Point Quobba FHPA adjoins the well-known 'Blowholes' tourist attraction at Quobba Station, 75 km north-west of Carnarvon WA, at the northernmost point of Shark Bay (DoF, 2004).

The marine life and habitats of the area are of considerable scientific and recreational interest and are highly valued in the local community. However, the area is at risk from a high level of use and conflict between users, due to the area's proximity to popular tourism sites, the boat ramp, camping and settlement areas (DoF, 2004).

The marine habitat at Point Quobba is in a transition zone between tropical and temperate climatic zones and is therefore highly diverse. It contains a mix of endemic temperate south-west Australian species and tropical and temperate Indo-Pacific species. The FHPA provides relatively sheltered breeding and feeding habitat for more than 100 species (DoF, 2015)

Point Quobba lies within the traditional area of the Baiyungu people, who are members of the Gnulli Group. The Baiyungu people use the area regularly, sometimes to collect trochus for consumption at Point Quobba and Black Rock (DoF, 2004).

There is a designated 'restricted area' within the FHPA to protect vulnerable habitats and fish species from human activity. Within this area commercial and recreational fishing and jet-skiing are prohibited. Restrictions on fishing in the rest of the FHPA are defined by the Department of Fisheries (DoF, 2015).

12.2.2.2 FHPAs Within the SWMR

Cottesloe Reef

The Cottesloe reef system stretches intermittently for approximately 4.4 km from a point 300 m south of the artificial surfing reef at the Cable Station to North Street, Cottesloe. It is located on a limestone shelf, which is known locally as the Cottesloe Fringing Bank. This shelf extends approximately 1.5 km offshore from the beach. Limestone pinnacles, elevated platforms, and water-eroded limestone outcrops form most of the surface reef structure. In places, sea-grass patches and kelp beds occur within 100 m of the shoreline (DoF, 2001a).

The reef is readily accessible to the public and intensively used by locals and other Perth metropolitan residents and is therefore vulnerable to human impacts. The reef system and its waters are highly popular for recreational activities including surfing, windsurfing, swimming, paddle skiing, line fishing, spear fishing, snorkelling and scuba diving.

The Cottesloe Reef system contains a unique and diverse range of marine habitats. These include sand, sand with seagrass, limestone reef with large kelp and macroalgae, sponge beds and garden bottoms. In deeper water, corals, sea cucumbers and sponge gardens thrive and the slope of the reef platform at Mudurup Rocks provides habitat for animals such as feather stars and small molluscs, which are protected from heat and drying during low summer tides. An abundance of finfish can be found in and around the reef system, including herring, tailor, skipjack (silver trevally), whiting, morwong and tarwhine (silver bream). The reef is also a breeding ground for squid, Port Jackson sharks and other elasmobranchs including stingrays (DoF, 2001a; DoF 2010).

Regulations for protection of Cottesloe Reef include:

- Spearfishing is prohibited throughout the FHPA.
- Commercial fishing is prohibited throughout the FHPA.
- Recreational fishing (except net fishing) for fish such as tailor, herring, whiting, skipjack and garfish is permitted in the FHPA, subject to recreational fishing rules for the West Coast region.
- Anchoring of any craft in the FHPA is prohibited.
- Five yellow moorings have been provided within the FHPA for use by boats up to 12 m. These moorings are removed during winter (April–November) to prevent damage from winter storms (DoF, 2010).

Lancelin Island Lagoon

Lancelin Island is an emergent limestone feature of the coastal marine environment of the mid-west coast of Western Australia. The island is located approximately 110 km north of Perth and 800 m offshore from the Lancelin town site (DoF, 2001b).

The Lancelin Island Lagoon is a small area of reef habitat on the western side of Lancelin Island and

a popular snorkelling and diving destination. Water depth ranges from less than 0.3 m on the intertidal reefs to less than 3 m on the sand or seagrass-covered bottom. The area has a diverse array of benthic marine habitat. During a marine survey of the area, over 200 flora and fauna species were positively identified, with more remaining unidentified due to the diversity of species (DoF, 2001a).

The management strategy for the Lancelin Island Lagoon includes the following regulations:

- Prohibit all recreational and commercial fishing, aquaculture and collecting in the FHPA.
- Prohibit boat anchorage within the FHPA.
- Investigate the means to prohibit mining and exploration within the FHPA and in adjacent areas where the environmental values of the FHPA may be compromised (DoF, 2001a).

12.2.3 Aquaculture

Aquaculture operations in the northwest are typically restricted to inland and shallow coastal waters.

12.2.3.1 West Coast Bioregion

Aquaculture activities in the West Coast bioregion, defined by the Department of Primary Industries and Regional Development (DPIRD) (as the government body responsible management of primary industries in WA) are focused on blue mussels and edible oysters (mainly in Cockburn Sound) and marine algae for production of beta-carotene, used as a food additive and as a nutritional supplement. Offshore marine finfish production is also being developed, initially focusing on yellowtail kingfish near Geraldton.

There is also an emerging black pearl industry (from the *Pinctada margaritifera* oyster) in the Abrolhos Islands. As well as expansion in the production of Akoya pearls (small white pearls from *Pinctada fucata martensi*), *Pinctada albina* (small, yellow pearls) and *Pteria penguin*, which are often used to produce half (mabe) pearls in pink and bluish shades.

Aquaculture licences for producing coral and live rock (pieces of old coral reefs colonised by marine life, such as beneficial bacteria, for aquariums) at the Abrolhos Islands have also been issued and other applications are being assessed (DPIRD, 2023).

12.2.3.2 Gascoyne Coast Bioregion

In the Gascoyne Coast bioregion, aquaculture activities are focused on the blacklip oyster (*Pinctada margaritifera*) and Akoya pearl oyster (*Pinctada imbricata*) (Gaughan and Santoro, 2020). Several hatcheries supply *P. margaritifera* juveniles to the region's developing black pearl farms.

Other aquaculture developments in the Gascoyne Coast bioregion include emerging producers of coral and live rock species for aquariums (DPIRD, 2023).

12.2.3.3 North Coast Bioregion

Aquaculture activities in the North Coast bioregion is dominated by the production of pearls (from the *Pinctada margaritifera* oyster). A large number of pearl oysters for seeding are obtained from wild stocks and supplemented by hatchery produced oysters, with major hatcheries operating at Broome and around the Dampier Peninsula (DPIRD, 2023). Primary spawning of the pearl oyster occurs from mid-October to December. A smaller secondary spawning occurs in February and March (Gaughan and Santoro, 2020).

Finfish aquaculture in the Kimberley region is dominated by Barramundi located in the Kimberley Aquaculture Development Zone which lies approximately 200 km north-east of Broome. Rock oyster trials are nearing completion near Karratha in the Pilbara region, however there is no commercial production of the species in this region at this stage (DPIRD, 2023).

There is one indigenous project at One Arm Point that operates a marine hatchery that focuses on a variety of ornamental and edible marine species (DPIRD, 2023).

12.2.3.4 South Coast Bioregion

Aquaculture activities in the South Coast bioregion is dominated by the production of edible oysters (Akoya and rock oysters) and mussels within King George Sound in Albany. Other forms of private aquaculture in the region include sea cage farming of abalone, which are restricted to the South Coast near Augusta (Flinders Bay) and Esperance (Wylie Bay) (DPIRD, 2023).

12.3 Fisheries – Traditional

Traditional or customary fisheries are typically restricted to shallow coastal waters and/or areas with structures such as reef. The Western Australia Recreational Fishing Guide (2024) states that First Nations people do not need a recreational fishing licence in any waters if it is in accordance with continuing tradition and for individual or familial consumption, not for a commercial purpose.

Dugong, fish and marine turtles that move between coastal and Commonwealth waters are important components of the First Nations people's culture and diet. First Nations people continue to actively manage their sea country in coastal waters of WA in order to protect and manage the marine environment, its resources and cultural values.

Indonesian fishers can fish within designated areas under the Australia-Indonesia Memorandum of Understanding regarding the Operations of Indonesian Traditional Fishermen in Areas of the Australian Fishing Zone and Continental Shelf – 1974 (MoU 74). Traditional fishing is allowed within the MoU Box (Figure 12-9), which encompasses: Ashmore Reef (Pulau Pasir), Cartier Island (Pulau Baru), Seringapatam Reef (Afringan), Scott Reef (Pulau Dato) and Browse Island (Berselan). Restrictions have since been introduced around Ashmore Reef and Cartier Island following their designation as Nature Reserves under the Commonwealth's *National Parks and Wildlife Conservation Act 1975* in 1983 and 2000, respectively.

The MoU allows Indonesian fishers to fish in designated areas using traditional methods only. These methods include reef gleaning, free-diving, hand lining and other non-mechanised methods. Scott Reef is currently the principal reef in the MoU 74 Box and is utilised seasonally by Indonesian fishers to harvest trepang, trochus shells and other reef species. The peak season is July to October due to more favourable wind conditions, and to allow fishers to sun dry their catch on their boat decks (ERM, 2009). Browse Island is also frequently visited by shark fishers who mostly fish along the eastern margin of the MoU 74 Box.

The Agreement between the Government of Australia and the Government of the Republic of Indonesia Relating to Cooperation in Fisheries (*1992 Fisheries Cooperation Agreement*) provides the framework for fisheries and marine cooperation between Australia and Indonesia. Cooperation under the Agreement today takes place under the auspices of the Working Group on Marine Affairs and Fisheries. Research reports on reef top species in the MoU Box indicate that stocks in the area are severely depleted. In 2009 the Working Group on Marine Affairs and Fisheries agreed to a Roadmap for MoU Box Cooperative Management (DAWE, 2020a).

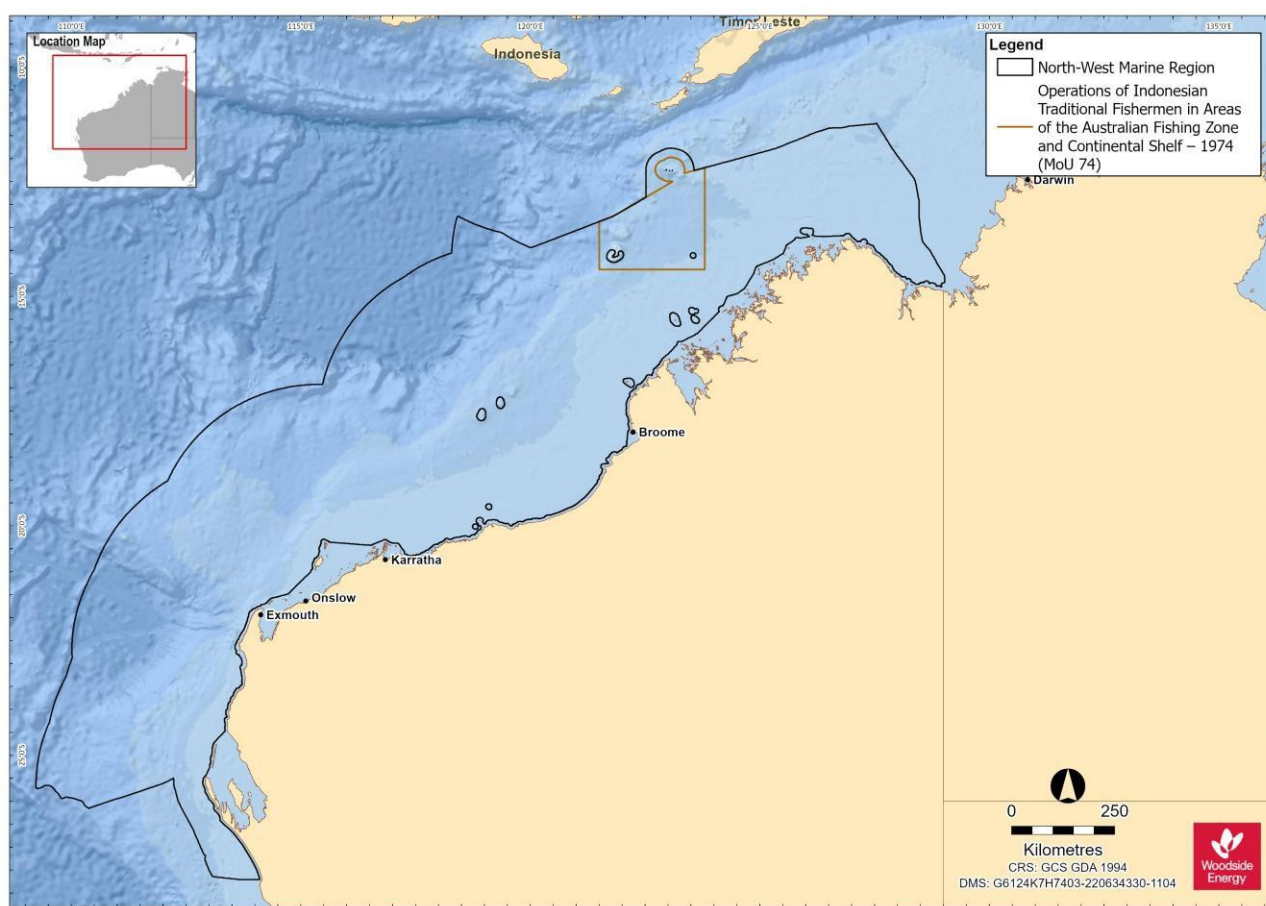


Figure 12-9: MOU 74 Box: operations of Indonesian traditional fishermen in areas of the Australian Fishing Zone and Continental Shelf – 1974

12.4 Tourism and Recreation

Western Australia's tourism sector is important to industry and the economy. In 2022–23, tourism accounted for 6.8% of WA's total jobs and generated a gross total value added of \$11.9 billion (Tourism Western Australia, 2024a).

The Kimberley, Pilbara and Gascoyne regions are popular visitor destinations for Australian and international tourists. Tourism is concentrated in the vicinity of population centres, including Broome, Dampier, Exmouth, Coral Bay and Shark Bay. Recreational and tourism activities include charter fishing, recreational fishing, diving, snorkelling, marine fauna watching, and yachting (Tourism Western Australia, 2024b).

Australia's Coral Coast and North West had a 27% and 22% growth respectively, in intrastate spend compared to 2019. The state's highest intrastate spend on record occurred with WA residents spending \$9.3 billion on trips within the state (Tourism Western Australia, 2024b).

12.4.1 Gascoyne Region

Tourism has the fourth largest economic output of all the major industries of the Gascoyne region (GDC, 2023). It contributes significantly to the local economy in terms of both income and employment. In 2022, the region had over 271,100 overnight visitors and tourism had an average economic output of \$182 million between 2021 and 2022 (GDC, 2023).

The COVID-19 pandemic disrupted the tourism industry of the Gascoyne region in previous years, particularly by reducing availability of the overseas workforce. However, the phasing out of restrictions has increased interstate and international travel, and visitor numbers have remained high

with inter-state tourism numbers increasing in 2021 in comparison to 2020 (GDC, 2022). The main attraction of the coastline for tourists is the quality of marine life. The region supports extensive scuba diving, snorkelling and fishing and specialised eco-tourism activities include whale shark and manta ray observation at Ningaloo, and dolphin and dugong viewing in Shark Bay (Newman et al., 2023b). In 2018–19, the Ningaloo region (Ningaloo Reef and the surrounding coastal region Exmouth Gulf, communities of Exmouth and Coral Bay, and adjacent proposed southern coastal reserves and pastoral leases) contributed an estimated \$110 million in value added to the WA economy (DCBA, 2020). Ningaloo's economic contribution to WA is attributed to four key types of economic activity, tourism expenditure by international, interstate and WA visitors to the Ningaloo region, commercial fishing in the Exmouth Gulf, recreation activity involving the Reef by residents of the Ningaloo region and management and research relating to the Reef (DCBA, 2020). More than 90% of this value added is attributed to the domestic and international tourists who visit Ningaloo each year (DCBA, 2020). Dark sky tourism flourished in 2023 with an influx of visitors coming together in Exmouth to witness a rare hybrid solar eclipse (GDC, 2023). The natural phenomena brought thousands of visitors both interstate and international to the region in April 2023.

The first Cultural Tourism experience was launched in 2022 on the Ningaloo Coast. Departing from Coral Bay, the Cultural Tour provides visitors the opportunity to experience a unique perspective on the coastline's rich cultural heritage and unique environment. The main marine nature-based tourist activities are concentrated around and within the Ningaloo WHA (GDC, 2022). The Aboriginal AstroTourism Project was launched where First Nations people were consulted on night sky constellations and trained in dark sky tourism. Through this program star gazing experiences were successfully delivered to approximately 665 visitors over 10 nights during the Ningaloo Eclipse (GDC, 2023).

12.4.2 Pilbara Region

Recreation and tourism activities within the Pilbara are of high social value. Tourism is a key economic driver for the Pilbara with more than 1 million visitors to the region every year. Tourism visitation continued to grow in 2022, with the number of visitors to Karajini National Park in 2022 having doubled in comparison to 2020 (PDC, 2022). Multi-year tourism infrastructure development funding has been provided for the Niminjarra Highway to provide easier access to the Karlamilyi National Park and enhance cultural tourism opportunities and to the Whim Creek Hotel to re-establish a tourism destination between Karratha and Hedland (PDC, 2023).

Recreational fishing within the Pilbara region tends to be concentrated in State waters adjacent to population centres. Recreational fishing is known to occur around the Dampier Archipelago with boats launched from boat ramps around Dampier and Karratha. Once at sea, charter vessels may also frequent the waters surrounding the Montebello Islands (Williamson et al., 2006).

12.4.3 Kimberley Region

Tourism is one of the main industries in the Kimberley region, alongside resources, construction, agriculture and retail (KDC, 2022).

Recreation and tourism activities in the Kimberley region occur predominantly in WA State waters (extending offshore 3 NM from the mainland), adjacent to coastal population centres (e.g. Broome), with a peak in activity during the winter months (dry season). These activities include recreational fishing, diving, snorkelling, wildlife watching and boating (Newman et al., 2023b).

Primary dive locations in the Kimberley region include the Rowley Shoals, including Mermaid Reef AMP, Scott Reef, Seringapatam Reef, Ashmore Reef AMP and Cartier Island (Newman et al., 2023b).

12.5 Shipping

Commercial shipping traffic is high within the NWMR with vessel activities including commercial

fisheries, tourism such as cruises, international shipping and oil and gas operations. There are 12 ports adjacent to the NWMR, including the major ports of Dampier, Port Hedland and Broome, which are operated by their respective port authorities. These ports handle large tonnages of iron ore and petroleum exports in addition to salt, manganese, feldspar chromite and copper (DEWHA, 2008).

Heavy vessel traffic exists within the Pilbara Port Authority management area which recorded 9594 vessel movements in the Port of Dampier, 6,786 vessel movements in the Port of Port Hedland, and 807 vessel movements in the Port of Ashburton in the 2022/23 reporting period (PPA, 2023). Twenty-six designated anchorages for bulk carriers, petroleum and gas tankers, drilling rigs, offshore platforms, and pipelay vessels are located offshore of Rosemary Island.

In 2012, AMSA established a network of shipping fairways off the northwest coast of Australia. The shipping fairways, while not mandatory, aim to reduce the risk of collision between transiting vessels and offshore infrastructure. The fairways are intended to direct large vessels such as bulk carriers and LNG ships trading to the major ports into pre-defined routes to keep them clear of existing and planned offshore infrastructure (AMSA, 2013).

12.6 Petroleum Basins

The NWMR supports a number of industries including petroleum exploration and production.

Within the NWMR there are seven sedimentary petroleum basins: Northern and Southern Carnarvon basins, Perth, Browse, Roebuck, Offshore Canning and Bonaparte basins (GA, 2023). Of these, the Northern Carnarvon, Browse and Bonaparte basins hold large quantities of gas and comprise most of Australia's reserves of natural gas (DEWHA, 2008), which is reflected by the level of development in the area. In addition to existing facilities, there are proposed developments in the region. This includes proposals to develop gas and condensate from a number of fields within the NWMR.

In addition to the oil and gas industry, other land-based industries depend upon the marine environment in the nearshore area. These include ports, salt mines such as Karratha and Onslow, LNG onshore processing facilities such as Burrup Hub, Thevenard Island, Barrow Island, Varanus Island, and small-scale desalination plants at Barrow Island, Burrup, Cape Preston and Onslow.

12.7 Defence

Key Australian Department of Defence (DoD) operational areas and facilities areas of the NWMR for training and operational activities, include:

- An operating logistics base has been established in Dampier to support vessels patrolling the waters around offshore oil and gas facilities. A dedicated navy administrative support facility is also being constructed at the nearby township of Karratha (DEWHA, 2008).
- The Taylor Barracks are the headquarters of the Pilbara regiment, one of three Regional Force Surveillance Units conducting surveillance and reconnaissance of remote areas of northern Australia. This base is located in Karratha (DoD, n.d.).
- The Royal Australian Air Force currently maintains two 'bare bases' in remote areas of WA that are used for military exercises. One of these is the Royal Australian Air Force Base in Learmonth. The Royal Australian Air Force maintains the Commonwealth Heritage listed Learmonth Air Weapons Range Facility, which is located between Ningaloo Station and the Cape Range National Park. The air training area associated with the Learmonth base extends over the offshore region.
- The Royal Australian Air Force Base Curtin is located on the north coast of WA, south-east of Derby and 170 km east of Broome. It provides support for land, air and sea operations aimed to support Australia's northern approaches.

- The Naval Communications Station Harold E. Holt is located ~6 km north of Exmouth. The main role of the station is to communicate at very low frequencies (19.8 kHz) with Australian and United States submarines and ships in the eastern Indian Ocean and the western Pacific Ocean (DEWHA, 2008).
- Areas may be subject to Unexploded Ordnance (UXO) as a result of military activities. These are offshore sites where ammunition and explosives have been dumped, or which have been used as live bombing or firing ranges. Defence maintains a record of sites confirmed as, or reasonably suspected of being affected by UXO. There are several suspected UXO sites in the NWMR (Australian Government Defence, n.d.).

13. REFERENCES

- [ABARES] Australian Bureau of Agricultural and Resource Economics and Sciences as part of the Australian Government Department of Agriculture, Fish, and Forestry 2021. Fishery Status Reports Map Data. Available at: Fishery status report – map data – DAFF (agriculture.gov.au). Access date, June 2022.
- [AFMA] Australian Fisheries Management Authority 2014. Orange Roughy (*Hoplostethus atlanticus*) Stock Rebuilding Strategy 2014. Australian Government.
- [AFMA] Australian Fisheries Management Authority 2021a. Southern Blue Fin Tuna. Accessed 3 June 2021 www.afma.gov.au/fisheries-management/species/southern-bluefin-tuna.
- [AFMA] Australian Fisheries Management Authority 2021b. Western Skipjack Tuna. Accessed 3 June 2021 www.afma.gov.au/fisheries-management/species/skipjack-tuna.
- [AIMS] Australian Institute of Marine Science 2014. AIMS 2013 Biodiversity Survey of Glomar Shoal and Rankin Bank. Report prepared by the Australian Institute of Marine Science for Woodside Energy Ltd. Australian Institute of Marine Science, Townsville, Queensland, July 2014 Rev 0, 153 pp.
- [AMSA] Australian Maritime Safety Authority 2013. Australian Government Maritime Safety Authority Annual Report 2012/13. Available at: <https://www.amsa.gov.au/sites/default/files/amsa191-annual-report-2012-13.pdf>.
- [AODN] Australian Ocean Data Network 2008. National Shipwreck Database. Available from: <https://researchdata.edu.au/national-shipwreck-database/689517> [Accessed 15/08/2024].
- [BOM] Bureau of Meteorology 2021a. Climatology of tropical cyclones in Western Australia. Australian Government. <http://www.bom.gov.au/cyclone/climatology/wa.shtml> [Accessed 05 May 2021].
- [BOM] Bureau of Meteorology 2023a. Climate statistics for Troughton Island, monthly climate statistics. Australian Government. http://www.bom.gov.au/climate/averages/tables/cw_001007.shtml [Accessed 27 July 2023].
- [BOM] Bureau of Meteorology 2023b. Climate statistics for Learmonth Airport, monthly climate statistics. Australian Government. http://www.bom.gov.au/climate/averages/tables/cw_005007_All.shtml [Accessed 27 July 2023].
- [BOM] Bureau of Meteorology 2023c. Average annual & monthly maximum, minimum, & mean temperature. Australian Government. http://www.bom.gov.au/jsp/ncc/climate_averages/temperature/index.jsp. [Accessed 23 August 2023].
- [BRS] Bureau of Rural Sciences 2007. Fishery Status Reports 2007. Status of Fish Stocks Managed by the Australian Government. Australian Government Department of Agriculture, Fisheries and Forestry, Bureau of Rural Sciences. 304 pp.
- [CALM] Department of Conservation and Land Management 1992. Marmion Marine Park Management Plan 1992-2002, Management Plan No 23. Department of Conservation and Land Management. <https://library.dbca.wa.gov.au/FullTextFiles/014385.pdf>.
- [CALM] Department of Conservation and Land Management 1996. Shark Bay Marine Reserves Management Plan 1996-2006. Department of Conservation and Land Management.
- [CALM] Department of Conservation and Land Management 1999. Swan Estuary Marine Park and Adjacent Nature Reserves Management Plan 1999-2009, Management Plan No 41. Department of Conservation and Land Management.
- [CALM] Department of Conservation and Land Management 2003a. Eighty-mile Beach, Western Australia. Information Sheet on Ramsar Wetlands.

<https://www.environment.gov.au/water/topics/wetlands/database/pubs/34-ris.pdf>.

[CALM] Department of Conservation and Land Management 2003b. Roebuck Bay, Western Australia. Information Sheet on Ramsar Wetlands. <https://www.environment.gov.au/water/topics/wetlands/database/pubs/33-ris.pdf>.

[CALM] Department of Conservation and Land Management 2003c. Forrestdale and Thomsons Lakes Ramsar. Information Sheet on Ramsar Wetlands. <https://www.environment.gov.au/water/topics/wetlands/database/pubs/35-ris.pdf>.

[CALM] Department of Conservation and Land Management 2003d. Peel – Yalgorup System Ramsar. Information Sheet on Ramsar Wetlands. <https://www.environment.gov.au/water/topics/wetlands/database/pubs/36-ris.pdf>.

[CALM] Department of Conservation and Land Management 2005a. Management Plan for the Ningaloo Marine Park and Muiron Islands Marine Management Area 2005–2015. Department of Conservation and Land Management.

[CALM] Department of Conservation and Land Management 2005b. Jurien Bay Marine Park Management Plan 2005-2015, Management Plan No 49. Department of Conservation and Land Management.

[DAC] Dambimangari Aboriginal Corporation 2012. Dambimangari Healthy Country Plan 2012–2022.

[DAWE] Department of Agriculture, Water and the Environment. 2004. Garden Island, WA, Australia. Australian Heritage Database, Australian Government. Available from: http://www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=search_results;list_code=CHL;legal_status=35.

[DAWE] Department of Agriculture, Water and the Environment 2019. Directory of Important Wetlands. <https://www.environment.gov.au/cgi-bin/wetlands/search.pl?smode=DOIW>.

[DAWE] Department of Agriculture, Water and the Environment 2020a. Indonesia- Australia Fisheries Cooperation. Available at: <https://www.awe.gov.au/agriculture-land/fisheries/international/cooperation/indonesia#:~:text=Established%20in%202001%2C%20the%20Working,the%20Arafura%20and%20Timor%20seas>.

[DAWE] Department of Agriculture, Water and the Environment 2020b. National Recovery Plan for the Australian Fairy Tern (*Sternula nereis nereis*). 47 pp. <https://www.dcceew.gov.au/sites/default/files/documents/national-recovery-plan-australian-fairy-tern.pdf> [Accessed on 15/08/2024].

[DAWE] Department of Agriculture, Water and the Environment 2022. Listing Advice *Megaptera novaeangliae* Humpback Whale. Prepared under the *Environment Protection and Biodiversity Conservation Act 1999*. Canberra: Department of Agriculture, Water and the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/38-listing-advice-26022022.pdf>.

[DBCA] Department of Biodiversity Conservation and Attractions 2020. Economic contribution of Ningaloo: one of Australia's best kept secrets. Deloitte Access Economics. June 2020. 58 pp.

[DBCA] Ningaloo Turtle Program Annual Conservation and Attractions 2021a. Department of Biodiversity, Ningaloo Turtle Program, Exmouth, Western Australia.

[DBCA] Department of Biodiversity Conservation and Attractions 2021b. Proposed marine parks in the Buccaneer Archipelago and surrounds. Department of Biodiversity Conservation and Attractions, Government of Western Australia.

[DBCA] Department of Biodiversity, Conservation and Attractions 2022a. Bardi Jawi Gaarra Marine Park joint management plan 2022. <https://www.dbca.wa.gov.au/management/plans/bardi-jawi-gaarra-marine-park>.

[DBCA] Department of Biodiversity, Conservation and Attractions 2022b. Lalang-gaddam Marine Park joint management plan 2022. <https://www.dbca.wa.gov.au/management/plans/lalang-gaddam-marine-park>.

[DBCA] Department of Biodiversity, Conservation and Attractions 2022c. Mayala Marine Park joint management plan 2022. <https://www.dbca.wa.gov.au/management/plans/mayala-marine-park>.

[DBCA] Department of Biodiversity, Conservation and Attractions 2023. Swan Estuary Marine Park. About this park. Parks and Wildlife Service. Explore Parks WA. <https://exploreparks.dbca.wa.gov.au/park/swan-estuary-marine-park> [Accessed 28 Sep 2023].

[DBCA] Department of Biodiversity, Conservation and Attractions 2023a. 'Ningaloo Turtle Program Annual Report 2022-2023'. Department of Biodiversity, Conservation and Attractions and the Ningaloo Turtle Program, Exmouth, Western Australia. https://ningalooturtles.org.au/wp-content/uploads/2023/08/NTP-Annual-Report-2022_23-FINAL.pdf [Accessed 16 Aug 2024].

[DBCA] Department of Biodiversity Conservation and Attractions 2024. South Coast Marine Park. Government of Western Australia. <https://www.dbca.wa.gov.au/management/parks/plan-our-parks/south-coast-marine-park> [Accessed 18/12/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2019a. Ord River Floodplain. Australian Wetlands Database. Ramsar Wetlands. <https://www.environment.gov.au/cgi-bin/wetlands/ramsardetails.pl?refcode=31> [Accessed 27 Sep 2023].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2019b. Directory of Important Wetlands in Australia – Information Sheet. <http://www.environment.gov.au/cgi-bin/wetlands/report.pl> [Accessed 27 Sep 2023].

[DCCEEW] Department of Climate Change, Energy, the Environment and Water 2021a. Australian Convict Sites. Australian Government. Available from: <https://www.dcceew.gov.au/parks-heritage/heritage/places/world/convict-sites#more-information>.

[DCCEEW] Department of Climate Change, Energy, the Environment and Water 2021b. Marine Bioregional Plans. Australian Government. Available from <https://www.dcceew.gov.au/environment/marine/marine-bioregional-plans> [Accessed 20/08/2024].

[DCCEEW] Department of Climate Change, Energy, the Environment and Water 2022. National Recovery Plan for albatrosses and petrels. Commonwealth of Australia. <https://www.dcceew.gov.au/sites/default/files/documents/national-recovery-plan-albatrosses-and-petrels-2022.pdf> [Accessed 13 August 2024].

[DCCEEW] Department of Climate Change, Energy, the Environment and Water 2023a. 'Species Threats and Profile Database'. Department of Climate Change, Energy, the Environment and Water. <https://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl> [Accessed 26 July 2023].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2023b. Sea Country Indigenous Protected Areas Program - Grant Opportunity. <https://www.dcceew.gov.au/environment/land/indigenous-protected-areas/sea-country-grant-opportunity> [Accessed 21/07/24].

[DCCEEW] Department of Climate Change, Energy, the Environment and Water 2023c. Conservation Advice for *Varanus mitchelli* (Mitchell's water monitor). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/1569-conservation-advice-21122023.pdf> [Accessed 15/08/24].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2023d. National Light Pollution Guidelines for Wildlife. Available from: <https://www.dcceew.gov.au/environment/biodiversity/publications/national-light-pollution-guidelines-wildlife> [Accessed on 13 Aug 2024].

[DCCEEW] Department of Climate Change, Energy, the Environment and Water 2023e. Conservation Advice for *Numenius madagascariensis* (far eastern curlew). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/847-conservation-advice-18122023.pdf> [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, Energy, the Environment and Water 2023f. Conservation Advice for *Calidris ferruginea* (curlew sandpiper). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/856-conservation-advice-18122023.pdf> <http://www.environment.gov.au/biodiversity/threatened/species/pubs/847-conservation-advice-18122023.pdf> [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, Energy, the Environment and Water 2023g. Conservation Advice for *Charadrius leschenaultii* (greater sand plover). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/877-conservation-advice-18122023.pdf> [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water n.d.-a. Mermaid Reef – Rowley Shoals, Broome, WA, Australia Place Details. Australian Heritage Database. <https://www.dcceew.gov.au/parks-heritage/heritage/places/commonwealth-heritage-list> [Accessed 27 Sep 2023].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water n.d.-b. Learmonth Air Weapons Range Facility, Learmonth, WA, Australia Place Details. Australian Heritage Database. <https://www.dcceew.gov.au/parks-heritage/heritage/places/commonwealth-heritage-list> [Accessed 27 Sep 2023].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water n.d.-c. Yampi Defence Area, Koolan Island, WA, Australia Place Details. Australian Heritage Database. <https://www.dcceew.gov.au/parks-heritage/heritage/places/commonwealth-heritage-list> [Accessed 27 Sep 2023].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water n.d.-d. Ashmore Reef National Nature Reserve, Timor Sea, EXT, Australia Place Details. Australian Heritage Database. Available from: <https://www.dcceew.gov.au/parks-heritage/heritage/places/commonwealth-heritage-list>. [Accessed 27 Sep 2023].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water n.d.-e. Scott Reef and Surrounds, Timor Sea, EXT, Australia Place Details. Australian Heritage Database. Available from: <https://www.dcceew.gov.au/parks-heritage/heritage/places/commonwealth-heritage-list> [Accessed 27 Sep 2023].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water n.d.-f. Ningaloo Marine Area, Commonwealth Waters, Ningaloo, WA, Australia Place Details. Australian Heritage Database. <https://www.dcceew.gov.au/parks-heritage/heritage/places/commonwealth-heritage-list>. [Accessed 27 Sep 2023].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024a. National Recovery Plan for the Southern Right Whale *Eubalaena australis*. Department of Climate Change, Energy, the Environment and Water, Canberra. Available from: <http://www.dcceew.gov.au/environment/biodiversity/threatened/recovery-plans/southern-right-whale> [Accessed on 13 Aug 2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024b. Biologically Important Areas of Regionally Significant Marine Species. COPYRIGHT Commonwealth of Australia, Australian Government Department of Climate Change, Energy, the Environment and Water.

Available from: https://fed.dcceew.gov.au/datasets/e8e7a7c233a44cf099817b2f4dff29c7_0/about [Accessed 16 Aug 2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024c. Indigenous Protected Areas. Accessed at <https://www.dcceew.gov.au/environment/land/indigenous-protected-areas>.

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024d. Marine Key Ecological Features (dataset). Available from: https://fed.dcceew.gov.au/datasets/551d6e7fae514a0386f0043186599754_0/about [Accessed 16/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024e. Conservation Advice for *Limosa lapponica menzbieri* (Yakutian bar-tailed Godwit). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/86432-conservation-advice-05012024.pdf>. [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024f. Conservation Advice for *Calidris canutus* (red knot). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/855-conservation-advice-05012024.pdf> [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024g. Conservation Advice for *Calidris tenuirostris* (great knot). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/862-conservation-advice-05012024.pdf> [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024h. Conservation Advice for *Limosa limosa* (black-tailed godwit). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/845-conservation-advice-05012024.pdf> [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024i. Conservation Advice for *Tringa nebularia* (common greenshank). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/832-conservation-advice-05012024.pdf> [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024j. Conservation Advice for *Limnodromus semipalmatus* (Asian dowitcher). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/843-conservation-advice-05012024.pdf> [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024k. Conservation Advice for *Arenaria interpres* (ruddy turnstone). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/872-conservation-advice-05012024.pdf> [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024l. Conservation Advice for *Calidris acuminata* (sharp-tailed sandpiper). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/874-conservation-advice-05012024.pdf>

[05012024.pdf](#) [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024m. Conservation Advice for *Xenus cinereus* (terek sandpiper). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/59300-conservation-advice-05012024.pdf> [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024n. Conservation Advice for *Pluvialis squatarola* (grey plover). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/865-conservation-advice-05012024.pdf> [Accessed 21/08/2024].

[DCCEEW] Department of Climate Change, the Environment, Energy and Water 2024o. Conservation Advice for *Aipysurus fuscus* (dusky sea snake). Canberra: Department of Climate Change, Energy, the Environment and Water. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/1119-conservation-advice-04092024.pdf>. [Accessed 10/12/2024].

[DCCEEW, NIAA] Department of Climate Change, the Environment, Energy and Water & National Indigenous Australians Agency 2024. Indigenous Protected Areas June 2024 (map). Available from: <https://www.dcceew.gov.au/sites/default/files/documents/ipa-national-map.pdf>.

[DEC] Department of Environment and Conservation 2007a. Rowley Shoals Marine Park Management 2007–2017 Management Plan No. 56. Department of Environment and Conservation, Perth, Western Australia.

[DEC] Department of Environment and Conservation 2007b. Management Plan for the Montebello/Barrow Islands Marine Conservation Reserves 2007–2017. Management Plan No 55. Department of Environment and Conservation, Perth, Western Australia.

[DEC] Department of Environment and Conservation 2007c. Shoalwater Islands Marine Park Management Plan 2007–2017, Management Plan No 58. Department of Environment and Conservation, Perth, Western Australia.

[DEC] Department of Environment and Conservation 2008. Shark Bay World Heritage Property Strategic Plan 2008–2020. Department of Environment and Conservation.

[DEC] Department of Environment and Conservation 2009a. Walpole and Nornalup Inlets Marine Park Management Plan 2009–2019, Management Plan No 62. Department of Environment and Conservation, Perth, Western Australia.

[DEC] Department of Environment and Conservation 2009b. Ecological Character Description of the Lake Warden System Ramsar Site: A Report by the Department of Environment and Conservation. Prepared by G. Watkins, Department of Environment and Conservation, Perth, Western Australia. <https://rsis.ramsar.org/RISapp/files/55262733/documents/AU485ECD.pdf>.

[DEC] Department of Environment and Conservation 2013. Ngari Capes Marine Park management plan 2013–2023, Management plan number 74. Department of Environment and Conservation.

[DEWHA] Department of Environment, Water, Heritage and the Arts 2007a. A characterisation of the marine environment of the North-west Marine Region. A summary of an expert workshop convened in Perth, Western Australia, 5–6 September 2007. Prepared by the North-west Marine Bioregional Planning section, Marine and Biodiversity Division, Department of the Environment, Water, Heritage and the Arts. 47 pp.

[DEWHA] Department of Environment, Water, Heritage and the Arts 2007b. Characterisation of the marine environment of the North Marine Region. Outcomes of an Expert Workshop, Darwin, Northern Territory, 2–3 April 2007. Prepared by the North Marine Bioregional Planning Section, Marine Division, Department of the Environment, Water, Heritage and the Arts. 37 pp.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: G2000RH1401743486

Revision: 2

Woodside ID: 1401743486

Page 338 of 373

Uncontrolled when printed. Refer to electronic version for most up to date information.

[DEWHA] Department of Environment, Water, Heritage and the Arts 2008. The North-west Marine Bioregional Plan, Bioregional Profile. A Description of the Ecosystems, Conservation Values and Uses of the North-west Marine Region. Prepared by the Marine Bioregional Planning – North-west, Marine and Biodiversity Division. Department of the Environment, Water, Heritage and the Arts. 288 pp.

[DEWHA] Department of Environment, Water, Heritage and the Arts 2009. Threat Abatement Plan to reduce the impacts of exotic rodents on biodiversity on Australian offshore islands less than 100,000 hectares. 24 pp.

[DEWR] Department of the Environment and Water Resources 2007. A characterisation of the marine environment of the South-west Marine Region: A summary of an expert workshop convened in Perth, Western Australia, September 2006. 40 pp.

[DNP] Director of National Parks 2018a. North-west Marine Parks Network Management Plan 2018, Director of National Parks, Canberra.

[DNP] Director of National Parks 2018b. South-west Marine Parks Network Management Plan 2018, Director of National Parks, Canberra.

[DNP] Director of National Parks 2018c. North Marine Parks Network Management Plan 2018, Director of National Parks, Canberra.

[DoD] Department of Defence. Base locations. Australian Government. Available from: <https://www.defence.gov.au/about/base-locations>.

[DOE] Department of the Environment 2014. Recovery Plan for the Grey Nurse Shark (*Carcharias taurus*). Canberra, ACT: Department of the Environment. Available from: <http://www.environment.gov.au/resource/recovery-plan-grey-nurse-shark-carcharias-taurus>.

[DOE] Department of the Environment 2015a. Conservation Advice *Numenius madagascariensis* eastern curlew. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/847-conservation-advice.pdf>.

[DOE] Department of the Environment 2015b. Conservation Advice *Calidris ferruginea* curlew sandpiper. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/856-conservation-advice.pdf>.

[DOE] Department of the Environment (2015c). Threat abatement plan for predation by feral cats. Canberra, ACT: Commonwealth of Australia. 50 pp.

[DOEE] Department of the Environment and Energy 2017. EPBC Act Policy Statement 3.21 – Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species. Commonwealth of Australia. <https://www.dcceew.gov.au/sites/default/files/documents/bio4190517-shorebirds-guidelines.pdf>.

[DOEE] Department of the Environment and Energy 2018. Threat abatement plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans. Commonwealth of Australia. <https://www.dcceew.gov.au/sites/default/files/documents/tap-marine-debris-2018.pdf>.

[DOEH] Department of Environment and Heritage 2004. Assessment of the Onslow and Nickol Bay Prawn Managed Fisheries, November 2004. 24 pp.

[DOF] Department of Fisheries 2001a. Plan of Management for the Cottesloe Reef Fish Habitat Protection Area. Fisheries Management Paper No. 155, Department of Fisheries, Perth, Western Australia.

[DOF] Department of Fisheries 2001b. Plan of Management for the Lancelin Island Lagoon Fish Habitat Protection Area. Fisheries Management Paper No. 149, Australian Marine Conservation Society Friends of Lancelin Island, Department of Fisheries, Perth, Western Australia.

[DOF] Department of Fisheries 2003. Miaboolya Beach Fish Habitat Protection Area, Department of

Fisheries, Perth, Western Australia.

[DOF] Department of Fisheries 2004. Plan of Management for the Point Quobba Fish Habitat Protection Area. Fisheries Management Paper No. 185, Department of Fisheries, Perth, Western Australia.

[DOF] Department of Fisheries 2007. Plan of Management for the Kalbarri Blue Holes Fish Habitat Protection Area. Fisheries Management Paper No. 188, Department of Fisheries, Perth, Western Australia.

[DOF] Department of Fisheries 2010. Cottesloe Reef Fish Habitat Protection Area. Department of Fisheries, Perth, Western Australia.

[DOF] Department of Fisheries 2011. State of the Fisheries and Aquatic Resources Report 2010/11. Fletcher, W.J. and Santoro, K. (eds), Department of Fisheries, Perth, Western Australia.

[DOF] Department of Fisheries 2014a. Kalbarri Blue Holes Fish Habitat Protection Area, Department of Fisheries, Perth, Western Australia.

[DOF] Department of Fisheries 2014b. Plan of Management for the Miaboolya Beach Fish Habitat Protection Area, Fisheries Management Paper No. 161, Department of Fisheries, Perth, Western Australia.

[DOF] Department of Fisheries 2015. Point Quobba Fish Habitat Protection Area, Department of Fisheries, Perth, Western Australia.

[DPAW] Department of Parks and Wildlife 2014a. Eighty Mile Beach Marine Park Management Plan 2014-2024. Management Plan No. 80. Department of Parks and Wildlife, Perth, Western Australia.

[DPAW] Department of Parks and Wildlife 2014b. Becher Point Wetlands. Information Sheet on Ramsar Wetlands. <https://www.environment.gov.au/water/topics/wetlands/database/pubs/54-ris.pdf>.

[DPAW] Department of Parks and Wildlife 2014b. Vasse-Wonnerup System. Information Sheet on Ramsar Wetlands. https://rsis.ramsar.org/RISapp/files/RISrep/AU484RIS_1407_en.pdf.

[DPAW] Department of Parks and Wildlife 2016a. North Kimberley Marine Park Joint Management Plan 2016 Uunguu, Balangarra, Miriuwung Gajerrong and Wilinggin management areas, Number Plan 89. Department of Parks and Wildlife, Perth.

[DPAW] Department of Parks and Wildlife 2016b. Yawuru Nagulagun / Roebuck Bay Marine Park joint management plan 2016. Department of Parks and Wildlife, Perth.

[DPAW] Department of Parks and Wildlife 2016c. Marmion Marine Park. Visitor Guide. [DPIRD] Department of Primary Industries and Regional Development. No date. Fisheries Research Report No. not provided. Unpublished Draft Resource Assessment Report for the North Coast Demersal Scalefish Resource. Available from: [Microsoft Word - North Coast Demersal Scalefish RAR 13 220620](#) [Accessed: June 2022].

[DPIRD] Department of Primary Industries and Regional Development 2013. Fish habitat protection areas. Available from: <https://www.fish.wa.gov.au/Sustainability-and-Environment/Aquatic-Biodiversity/Marine-Protected-Areas/Pages/Fish-Habitat-Protection-Areas.aspx>.

[DPIRD] Department of Primary Industries and Regional Development 2018a. Western Australian Marine Stewardship Council Report Series No. 14. Resource Assessment Report Western Australian Octopus Resource.

[DPIRD] Department of Primary Industries and Regional Development 2018b. Draft Management Plan for the Pilbara Crab Managed Fishery. Fisheries Management Paper No. 290. Government of Western Australia.

[DPIRD] Department of Primary Industries and Regional Development 2020. Fisheries Research Report. Draft Resource Assessment Report North Coast Demersal Scalefish Resource. Western

Australia.

[DPIRD] Department of Primary Industries and Regional Development 2023. Fisheries Guide - Consolidated Management Plans. Available from: Fisheries Guide - Consolidated Management Plans (–PIRD-062) – Datasets - data.wa.gov.au [Accessed: August 2023].

[DPIRD] Department of Primary Industries and Regional Development 2023. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/22: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia. https://www.fish.wa.gov.au/Documents/sofar/status_reports_of_the_fisheries_and_aquatic_resources_2021-22.pdf.

[DPIRD] Department of Primary Industries and Regional Development 2024. Recreational fishing guide 2024. Department of Primary Industries and Regional Development, Western Australia. https://www.fish.wa.gov.au/Documents/recreational_fishing/rec_fishing_guide/recreational_fishing_guide.pdf.

[DPLH] Aboriginal Cultural Heritage Reform 2022. Department of Planning, Lands and Heritage, Perth, Western Australia. Available from: <https://www.wa.gov.au/organisation/departments-of-planning-lands-and-heritage/aboriginal-cultural-heritage-reform>.

[DPLH] Department of Primary Industries and Regional Development. Aboriginal Heritage Act in Western Australia. Government of Western Australia, Perth, Western Australia. Accessed: July 2024. Available from: <https://www.wa.gov.au/organisation/departments-of-planning-lands-and-heritage/aboriginal-heritage-act-western-australia>.

[DSEWPAC] Department of Sustainability, Environment, Water, Population and Communities 2011a. Approved Conservation Advice for *Aipysurus apraefrontalis* (Short-nosed Sea Snake). Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/1115-conservation-advice.pdf>.

[DSEWPAC] Department of Sustainability, Environment, Water, Population and Communities 2011b. Approved Conservation Advice for *Aipysurus foliosquama* (Leaf-scaled Sea Snake). Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/1118-conservation-advice.pdf>.

[DSEWPAC] Department of Sustainability, Environment, Water, Population and Communities 2011c. National recovery plan for threatened albatrosses and giant petrels 2011–2016. Commonwealth of Australia, Hobart. Available from: <http://www.environment.gov.au/biodiversity/threatened/recovery-plans/national-recovery-plan-threatened-albatrosses-and-giant-petrels-2011-2016>.

[DSEWPAC] Department of Sustainability, Environment, Water, Population and Communities 2011d. Approved Conservation Advice for *Sternula nereis nereis* (Fairy Tern). Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/82950-conservation-advice.pdf>.

[DSEWPAC] Department of Sustainability, Environment, Water Population and Communities 2012a. Marine bioregional plan for the North-west Marine Region. Prepared under the *Environment Protection and Biodiversity Conservation Act 1999*. 269 pp.

[DSEWPAC] Department of Sustainability, Environment, Water Population and Communities 2012b. Marine bioregional plan for the South-west Marine Region. Prepared under the *Environment Protection and Biodiversity Conservation Act 1999*. 216 pp.

[DSEWPAC] Department of Sustainability, Environment, Water Population and Communities 2012c. Marine bioregional plan for the North Marine Region. Prepared under the *Environment Protection and Biodiversity Conservation Act 1999*. 200 pp.

[DSEWPAC] Department of Sustainability, Environment, Water, Populations and Communities 2012d. Species group report card – seabirds and migratory shorebirds. Supporting the marine bioregional plan for the North-west Marine Region.

[DSEWPAC] Department of Sustainability, Environment, Water, Population and Communities 2013a. Recovery Plan for the Australian Sea Lion (*Neophoca cinerea*) 2013. Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/system/files/resources/1eb9233c-8474-40bb-8566-0ea02bbaa5b3/files/neophoca-cinerea-recovery-plan.pdf>.

[DSEWPAC] Department of Sustainability, Environment, Water, Population and Communities 2013b. Recovery Plan for the White Shark (*Carcharodon carcharias*). Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/biodiversity/threatened/recovery-plans/recovery-plan-white-shark-carcharodon-carcharias>.

[DSEWPAC] Department of Sustainability, Environment, Water, Population and Communities 2013c. Conservation Advice for Subtropical and Temperate Coastal Saltmarsh.

Canberra: Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/118-conservation-advice.pdf>. [Accessed 20 July 2023].

[DSEWPAC] Department of Sustainability, Environment, Water, Population and Communities 2013d. Approved Conservation Advice for the Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula. Canberra, ACT: Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/105-conservation-advice.pdf>.

[DWER] Department of Water and Environmental Regulation 2023. Exmouth Gulf Taskforce – Interim report to the Minister for Environment. Joondalup, Western Australia. <https://www.wa.gov.au/system/files/2024-05/exmouth-gulf-taskforce-interim-report-september-2023.pdf> [Accessed on 16 Aug 2024].

[EPA] Environment Protection Authority 2022. Potential cumulative impacts of the activities and developments proposed for Exmouth Gulf. <https://www.epa.wa.gov.au/potential-cumulative-impacts-activities-and-developments-proposed-exmouth-gulf> [Accessed 23/07/2024].

[ERM] Environmental Resources Management 2009. Browse LNG Development: Social Study on Indonesian Fishers (Phase 2) 2008. Report produced for Woodside Energy Limited.

[GA] Geoscience Australia 2023. Petroleum Geology of Offshore Basins. Australian Government. Available from: <https://www.ga.gov.au/scientific-topics/energy/province-sedimentary-basin-geology/petroleum>.

[GA] Geoscience Australia 2024. Australian Marine Spatial Information System Advanced Map Viewer. Available from: <https://www.arcgis.com/apps/webappviewer/index.html?id=eee105ff33d2435a819bcff994eb1b9a>. [Accessed on 15/08/2024].

[GDC] Gascoyne Development Commission 2022. Annual Report 2021-2022, supported by Department of Primary Industries and Regional Development, Western Australia. https://www.gdc.wa.gov.au/Profiles/gdc/Assets/ClientData/GDC_Annual_Report_21-22.pdf.

[GDC] Gascoyne Development Commission 2023. Annual Report 2022-2023, supported by Department of Primary Industries and Regional Development, Western Australia. https://www.gdc.wa.gov.au/Profiles/gdc/Assets/ClientData/GDC_Annual_Report_22-23_WEB.pdf.

[KDC] Kimberley Development Commission 2022. 2021-2022 Annual Report, Government of

Western Australia, Kununurra. <https://www.kdc.wa.gov.au/wp-content/uploads/2022/11/KDC-Annual-Report-2021-2022.pdf>.

[KLC/ BJNAC RNTBC] Kimberley Land Council / Bardi Jawi Niimidiman Aboriginal Corporation RNTBC 2013. Bardi Jawi Indigenous Protected Area Management Plan 2013-2023. Broome.

[KTLA] Karajarri Traditional Lands Association 2014a. Karajarri Healthy Country Plan 2013–2023. Funded by the Department of Sustainability, Environment, Water, Population and Communities and the PEW Environment Trust and Nature Conservancy.

[KTLA] Karajarri Traditional Lands Association 2014b. Karajarri Indigenous Protected Area. Available from: <https://www.ktla.org.au/karajarri-indigenous-protected-area>.

[NIAA] National Indigenous Australians Agency n.d. Karajarri IPA and Rangers. Australian Government. Available from: <https://www.niaa.gov.au/indigenous-affairs/environment/karajarri-ipa-and-rangers>.

[NIAA] National Indigenous Australians Agency n.d.-a. Yawuru IPA and Rangers. Australian Government. Available from: <https://www.niaa.gov.au/indigenous-affairs/environment/yawuru-ipa-and-rangers>.

[NIAA] National Indigenous Australians Agency n.d.-b. Bardi Jawi IPA and Rangers. Australian Government. Available from: <https://www.niaa.gov.au/indigenous-affairs/environment/bardi-jawi-ipa-and-rangers>.

[NIAA] National Indigenous Australians Agency n.d.-c. Uunguu IPA and Rangers. Australian Government. Available from <https://www.niaa.gov.au/indigenous-affairs/environment/uunguu-ipa-and-rangers>.

[NIAA] National Indigenous Australians Agency n.d.-d. Wilinggin IPA and Wunggurr Rangers. Australian Government. <https://www.niaa.gov.au/indigenous-affairs/environment/wilinggin-ipa-and-wunggurr-rangers>. [Accessed 17 August 2023].

[NIAA] National Indigenous Australians Agency 2023. Indigenous Protected Areas. Australian Government. <https://www.niaa.gov.au/indigenous-affairs/environment/indigenous-protected-areas-ipas>. [Accessed 17 August 2023].

[NWAC & YMAC] Nyangumarta Warrarn Aboriginal Corporation & Yamatji Marlpa Aboriginal Corporation. 2015. Nyangumarta Warrarn Indigenous Protected Area, Plan of Management, 2015 to 2020. Prepared by Dr Nicholas Smith, South Hedland, WA.

[PDC] Pilbara Development Commission 2022. 2021–2022 Annual Report, Government of Western Australia, Karratha. Available from: https://www.pdc.wa.gov.au/Profiles/pdc/Assets/ClientData/Documents/PDC_Annual_Report_2012-2022.pdf.

[PDC] Pilbara Development Commission 2022. 2021-2022 Annual Report, Government of Western Australia, Karratha. Available from: <https://www.pdc.wa.gov.au/Profiles/pdc/Assets/ClientData/PDC-Annual-Report-2022-2023-single-page.pdf>.

[PPA] Pilbara Ports Authority 2023. Annual Report 2022–2023. [https://www.pilbaraports.com.au/about-pilbara-ports/publications/forms-and-publications/forms-and-publications/handbook/2023/september/2023-annual-report-\(1\)](https://www.pilbaraports.com.au/about-pilbara-ports/publications/forms-and-publications/forms-and-publications/handbook/2023/september/2023-annual-report-(1)) [Accessed 23/07/2024].

[WAM] Western Australian Museum 2018. Shipwrecks (WAM-002). Available from: <https://catalogue.data.wa.gov.au/dataset/shipwrecks> [Accessed 16/08/2024].

[WGAC] Wunambal Gaambera Aboriginal Corporation 2010. Wunambal Gaambera Healthy Country Plan – Looking after Wunambal Gaambera Country 2010–2020.

[WGAC] Wunambal Gaambera Aboriginal Corporation 2017. Uunguu Indigenous Protected Area: Wundaagu (Saltwater) Country, Plan of Management 2016–2020.

- [YRNTBC] Yawuru Registered Native Title Body Corporate 2014. Yawuru IPA – Plan of management 2016–2026. Broome, WA: Yawuru Registered Native Title Body Corporate.
- Abascal, F.J., Quintans, M., Ramos-Cartelle, A. and Mejuto, J. 2011. Movements and environmental preferences of the shortfin mako, *Isurus oxyrinchus*, in the southeastern Pacific Ocean. *Marine Biology* 158: 1175–1184.
- Abdul Wahab, M.A., Radford, B., Cappel, M., Colquhoun, J., Stewart, M., Depczynski, M., Miller, K. and Heyward, A. 2018. Biodiversity and spatial patterns of benthic habitat and associated demersal fish communities at two tropical submerged reef ecosystems. *Coral Reefs* 37: 327–343. <https://doi.org/10.1007/s00338-017-1655-9>.
- Allen, G.R. and Swainston, R. 1988. The Marine Fishes of North-Western Australia. A Field Guide for Anglers and Divers. Published by the Western Australian Museum, Perth, WA 6000.
- Allen, S.J., Cagnazzi, D.D., Hodgson, A.J., Loneragan, N.R. and Bejder, L. 2012. Tropical inshore dolphins of north-western Australia: Unknown populations in a rapidly changing region. *Pacific Conservation Biology* 18: 56–63. <https://doi.org/10.1071/PC120056>.
- Allen, S.J., Tyne, J.A., Kobry, H.T., Bejder, L., Pollock, K.H. and Loneragan, N.R. 2014. Patterns of Dolphin Bycatch in a North-Western Australian Trawl Fishery. *PLoS ONE* 9(4): e93178. <https://doi.org/10.1371/journal.pone.0093178>.
- Anderson, P.K. and Prince, R.I.T. 1985. Predation on dugongs: attacks by killer whales. *Journal of Mammalogy* 66(3): 554–556.
- Andrzejczek, S., Gleiss, A.C., Jordan, L.K.B. Pattiaratchi, C.B., Howey, L.A., Brooks, E.J. and Meekan, M.G. 2018. Temperature and the vertical movements of oceanic whitetip sharks, *Carcharhinus longimanus*. *Scientific Reports* 8, 8351. <https://doi.org/10.1038/s41598-018-26485-3>.
- Atlas of Living Australia, 2006. Preserved specimen of *Eubalaena australis* (Desmoulins, 1822) | Southern Right Whale. Occurrence Record. <https://biocache.ala.org.au/occurrences/9e6b09a4-8b4a-46c8-8bcc-6812c8edce96>.
- Aulich, M.G., Mccauley, R.D., Miller, B.S., Samaran, F., Giorli, G., Saunders, B.J. and Erbe, C., 2022. Seasonal distribution of the fin whale (*Balaenoptera physalus*) in Antarctic and Australian waters based on passive acoustics. *Frontiers in Marine Science*, 9, p.864153.
- Austin R. E., De Pascalis F., Votier S.C., Haakonsson J., Arnould J. P. Y., Ebanks-Petrie G., Newton J., Harvey J. and Green J. A. 2021. Interspecific and intraspecific foraging differentiation of neighbouring tropical seabirds. *Movement Ecology* 9:27.
- Australian Government Defence. n.d. Unexploded Ordnance Site Information. <https://uxo.defence.gov.au/unexploded-ordnance-site-information> [Accessed 23/07/2024].
- Baker, C., Potter, A., Tran, M. and Heap, A.D. 2008. Sedimentology and Geomorphology of the North-west Marine Region of Australia. Geoscience Australia, Canberra. 24 pp.
- Balance LT, Ainley DG, Hunt GL. 2008. Seabird Foraging Ecology. In: Steele J., Thorpe SA, Turekian KK, editors. *Encyclopedia of Ocean Science*. 2nd ed. [place unknown]: Elsevier Ltd. p. 2636–2644.
- Balanggarra Aboriginal Corporation and Kimberley Land Council. 2011. Balanggarra Healthy Country Plan. <https://www.klc.org.au/s/balanggarra-healthy-country-plan-2012-2022.pdf>.
- Bamford, M., Watkins, D., Bancroft, W., Tischler, G. and Wahl, J. 2008. Migratory shorebirds of the East Asian-Australasian flyway: population estimates and internationally important sites. *Wetlands International – Oceania*, Canberra.
- Bannister, J., Kemper, C.M. and Warneke, R.M. 1996. The action plan for Australian cetaceans. Australian Nature Conservation Agency, Canberra.
- Bannister, J.L. and Hedley, S.L. 2001. Southern Hemisphere group IV humpback whales: their status from recent aerial survey. *Memoirs of the Queensland Museum* 47(2): 587–98.

- Barber, M. and Jackson, S. 2011. Water and Indigenous People in the Pilbara, Western Australia: A Preliminary Study. Bejder, L., Videsen, S., Hermannsen, L., Simon, M., Hanf, D. and Madsen, P.T. 2019. Low energy expenditure and resting behaviour of humpback whale mother-calf pairs highlights conservation importance of sheltered breeding areas. *Scientific Reports* 9: 771. <https://doi.org/10.1038/s41598-018-36870-7>.
- Bateman, R.L., Morgan, D.L., Wueringer, B.E., McDavitt, M. and Lear, K.O. 2024. Collaborative methods identify a remote global diversity hotspot of threatened, large-bodied rhino rays. *Aquatic Conservation: Marine and Freshwater Ecosystems*: 34(1). Bejder, L., Videsen, S., Hermannsen, L., Simon, M., Hanf, D. and Madsen, P.T. 2019. Low energy expenditure and resting behaviour of humpback whale mother-calf pairs highlights conservation importance of sheltered breeding areas. *Scientific Reports*, 9(1), p.771.
- Batler, I., Patterson, H., Bromhead, D., Galeano, D., Timmiss, T., Woodhams, J., Curtotti, R., 2023. Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. pp.70-77. <https://doi.org/10.25814/vgp4-xr81>.
- Bayliss P and Hutton M (2017). Integrating Indigenous knowledge and survey techniques to develop a baseline for dugong (*Dugong dugon*) management in the Kimberley: Final Report of project 1.2.5 of the Kimberley Marine Research Program Node of the Western Australian Marine Science Institution, WAMSI, Perth, Western Australia, 98 pp. [Final-Report-WAMSI-KMRP-Dugong-Developing-a-Baseline-for-Dugong-Management-Bayliss-Hutton-1.pdf](#)
- Benjamin, J., O'Leary, M., McDonald, J., Wisemen, C., McCarthy, J., Beckett, E., Morrison, P., Stankiewicz, F., Leach, J., Hacker, J., Baggaley, P., Jerbic, K., Fowler, M., Fairweather, J., Jefferies, P., Ulm, S., and Bailey, G. 2020. Aboriginal artefacts on the continental shelf reveal ancient drowned cultural landscapes in northwest Australia. *PLoS ONE* 15(7): e0233912. <https://doi.org/10.1371/journal.pone.0233912>.
- Benjamin, J., O'Leary, M., McCarthy, J., Reynen, W., Wiseman, C., Leach, J., Bobeldyk, S., Buchler, J., Kermeen, P., Langley, M., Black, A., Yoshida, H., Parnum, I., Stevens, A., Ulm, S., McDonald, J., Veth, P., and Bailey, G. 2023 Stone artefacts on the seabed at a submerged freshwater spring confirm a drowned cultural landscape in Murujuga, Western Australia. *Quaternary Science Reviews* 313: 108190. <https://doi.org/10.1016/j.quascirev.2023.108190>.
- Bertolero, A., Oro, D., Martínez Vilalta, A., and Àngel López, M. 2005. Selection of foraging habitats by Little Terns *Sterna albifrons* at the Ebro Delta. *Revista Catalana d'Ornitologia* 21:37–42.
- BirdLife International 2021. Important Bird Areas factsheet: Bedout Island. Downloaded from <http://www.birdlife.org> on 12/10/2021.
- Birds Australia 2005. Personal Communication, August 2005. Referenced in Species Profile and Threats Database *Sula dactylatra bedouti* — Masked Booby (eastern Indian Ocean). Accessed 12 August 2024.
- Blake, I., Butler, I. and Dylewski, M. 2021. Chapter 6: North West Slope Trawl Fishery. In: *Fishery status reports 2021*, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0.
- Blake, S., Bromhead, D., Patterson, H. and Dylewski, M. 2022a. Western Tuna and Billfish Fishery. In: *Fishery Status Reports 2022*. Patterson, H., Bromhead, D., Galeano, D., Larcombe, J., Timmiss, T., Woodhams, J. and Curtotti, R. Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. pp. 326–339.
- Blue Planet Marine 2020. Australian Blue Whale Species Assessment Report (No. v4). Unpublished report to Woodside Energy Ltd.
- BMT WBM 2010. Ecological Character Description for Kakadu National Park Ramsar Site. Prepared for the Australian Government Department of Sustainability, Environment, Water, Population and Communities. <https://www.dcceew.gov.au/sites/default/files/documents/2-ecd.pdf>.

BMT WBM 2011. Ecological Character Description for Cobourg Peninsula Ramsar Site. Prepared for the Australian Government, Canberra. https://www.dcceew.gov.au/sites/default/files/documents/1-ecd_0.pdf.

Bottle A., Swann G., Willing T., Gale T., Collison L. (2004) Adele Island Bird Survey Report: 19th to 24th November 2004. <https://library.dbca.wa.gov.au/FullTextFiles/070853.pdf>.

Bouchet, P.J., Thiele, D., Marley, S.A., Waples, K., Weisenberger, F., Balangarra Rangers, Bardi Jawi Rangers, Dambimangari Rangers, Nyamba Buru Yawuru Rangers, Nyul Nyul Rangers, Unguu Rangers and Raudino, H. 2021. Regional assessment of the conservation status of Snubfin Dolphins (*Orcaella heinsohni*) in the Kimberley Region, Western Australia. *Frontiers in Marine Science* 7:article 614852.

Braccini, M. and Blay, N. 2020. Temperate Demersal Gillnet and Demersal Longline Fisheries Resource Status Report 2020. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2019/20: The State of the Fisheries* eds. D.J. Gaughan and K. Santoro. Department of Primary Industries and Regional Development, Western Australia. pp. 214–220.

Braccini, M. and Watt, M. 2021. Temperate Demersal Gillnet and Demersal Longline Fisheries Resource Status Report 2021. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2020/21: The State of the Fisheries* eds. B.S. Wise, D.J. Gaughan, K.G. Santoro and S.J. Newman. Department of Primary Industries and Regional Development, Western Australia. pp. 217–223.

Braccini, M. and Watt, M. 2023. Temperate Demersal Gillnet and Demersal Longline Fisheries Resource Status Report. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2019/20: The State of the Fisheries* eds. D.J. Gaughan and K. Santoro. Department of Primary Industries and Regional Development, Western Australia. pp. 227–232.

Braccini, M. and Rynvis, L. 2023. Temperate Demersal Gillnet and Demersal Longline Fisheries Resource Status Report. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). 2023. *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries*. Department of Primary Industries and Regional Development, Western Australia. pp 238–244.

Brewer, D., Lyne, V., Skewes, T. and Rothlisberg, P. 2007, *Trophic Systems of the North West Marine Region*, Report to the Department of the Environment and Water Resources, CSIRO Marine and Atmospheric Research, Cleveland. 167 pp.

Brown, A., Bejder, L., Cagnazzi, D., Parra, G.J. and Allen, S.J. 2012. The North West Cape, Western Australia: a potential hotspot for Indo-Pacific humpback dolphins *Sousa chinensis*? *Pacific Conservation Biology* 18: 240–246.

Brown, A.M., Bejder, L., Pollock, K.H. and Allen, S.J. 2016. Site-specific assessments of the abundance of three inshore dolphin species to inform conservation and management. *Frontiers in Marine Science* <https://doi.org/10.3389/fmars.2016.00004>.

Brown, A.M., Kopps, A.M., Allen, S.J., Bejder, L., Littleford-Colquhoun, B., Parra, G.J., Cagnazzi, D., Thiele, D., Palmer, C. and Frère, C.H. 2014. Population differentiation and hybridisation of Australian snubfin (*Orcaella heinsohni*) and Indo-Pacific humpback (*Sousa chinensis*) dolphins in north-western Australia. *PLoS ONE* 9: e101427.

Bruce, B.D., Stevens, J.D., and Malcolm, H. 2006. Movements and swimming behaviour of white sharks (*Carcharodon carcharias*) in Australian waters. *Marine Biology* 150: 161–172.

Bruce, B.D. 2008. The biology and ecology of the white shark, *Carcharodon carcharias*. In: Camhi, M.D., Pikitch, E.K., Babcock, E.A. (eds.), *Sharks of the Open Ocean: Biology, Fisheries and Conservation*. Blackwell Publishing Limited, Oxford, pp. 69–81.

Bulman, C. 2006. Trophic webs and modelling of Australia's North West Shelf. North West Shelf Joint Environmental Management Study (NWSJEMS) Technical Report No. 9. CSIRO Marine and

Atmospheric Research, Hobart. 49 pp.

Burbidge, A.A., Johnstone, R.E., and Fuller, P.J. 1996. The status of seabirds in Western Australia. In: Ross, G.J.B., K. Weaver & J.C. Greig, eds. *The Status of Australia's Seabirds: Proceedings of the National Seabird Workshop*, Canberra, 1–2 November 1993. Page(s) 57–71. Canberra: Biodiversity Group, Environment Australia.

Burbidge, A.A., Fuller, P., Lane, A.K. and Moore, S. 1987. Counts of Nesting Boobies and Lesser Frigate-birds in Western Australia. *Emu* 87:128–129.

Burger J, Gochfeld M, and Bonan, A. 1996. Gulls, Terns, Skimmers (Laridae). In: del Hoyo J, Elliott A, Sargatal J, Christie DA, de Juana E, editors. *Handbook of the Birds of the World Alive Vol 3*. Barcelona: Lynx Edicions.

Campana, S. and Joyce, W. 2004. Temperature and depth associations of porbeagle shark (*Lamna nasus*) in the northwest Atlantic. *Fisheries Oceanography* 13 (1): 52–64.

Campana, S.E., Joyce, W. and Fowler, M. 2010. Subtropical pupping ground for a cold-water shark. *Canadian Journal of Fisheries and Aquatic Sciences* 67: 769–773.

Campana, S.E., Marks, L. and Joyce, W. 2005. The biology and fishery of shortfin mako sharks (*Isurus oxyrinchus*) in Atlantic Canadian waters. *Fisheries Research* 73: 341–352.

Cannell, B., Allen, P.J.D., Wiley, E.M., Radford, B., Surman, C.A., and Ridley, A. 2022. The diet of brown boobies at a globally significant breeding ground is influenced by sex, breeding, sub-colony and year. *Marine Ecology Progress Series*. 10.3354/meps13895.

Cannell, B. and Surman A. 2021. Ashmore reef: seabirds and shorebirds, pages 122–148, in Keesing, J.K., Webber, B.L., Hardiman, L.K. (Eds). *Ashmore Reef Marine Park Environmental Assessment*. Report to Parks Australia. CSIRO, Crawley Australia.

Cannell, B., Hamilton, S. and Driessen, J. 2019. Wedge-tailed shearwater foraging behaviour in the Exmouth Region. BirdLife Australia and University of Western Australian study. Available from: <https://www.birdlife.org.au/documents/wedge-tailed%20shearwater%20foraging%20behaviour.pdf>.

Carruthers, T.J.B., Dennison, W.C., Kendrick, G., Waycott, M., Walker, D.I. and Cambridge, M. 2007. Seagrasses of south west Australia: a conceptual synthesis of the world's most diverse and extensive seagrass meadows. *Journal of Experimental Marine Biology & Ecology* 350: 21–45.

Catry T, Ramos JA, Le Corre M, Phillips RA. 2009. Movements, at-sea distribution and behaviour of a tropical pelagic seabird: the wedge-tailed shearwater in the western Indian Ocean. *Mar Ecol Prog Ser* 391:231–242. <https://doi.org/10.3354/meps07717>.

Ceccarelli, D., McCrea, I., Collis, M. and Nicoll, R. 2011. Australia's Last Great Whale Haven – Cetacean distribution and conservation needs in the north-west marine region. International Fund for Animal Welfare, November 2011. 72 pp.

Cerchio, S., Yamada, T.K., and Brownell Jr, R.L. 2019. Global Distribution of Omura's Whales (*Balaenoptera omura*) and Assessment of Range-Wide Threats. *Frontiers in Marine Science*, 6 (67). DOI:10.3389/fmars.2019.00067.

Chandrapavan, A., Wilkin, S., Breheny, N., Grounds, G. Cavalli, P. 2023. Shark Bay Blue Swimmer Crab Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2019/20: The State of the Fisheries eds. D.J. Gaughan and K. Santoro. Department of Primary Industries and Regional Development, Western Australia. pp. 112–117.

Chandrapavan, A., Wilkin, S., and Brown, S. 2023a. Shark Bay Blue Swimmer Crab Resource Status Report. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). 2023. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia pp 114–119.

Charlton, C., Ward, R., McCauley, R.D., Brownell, Jr R.L., Kent, C.S. and Burnell, S. 2019. Southern

Right Whale (*Eubalaena Australis*), Seasonal Abundance and Distribution at Head of Bight, South Australia. Aquatic Conservation 29, 4, 576-588. DOI: <https://doi.org/10.1002/aqc.3032>.

Chevron Australia 2010. Draft Environmental Impact Statement/Environmental Review and Management Programme for the Proposed Wheatstone Project. Appendix Q7 – Baseline water quality assessment report. Chevron Australia, Perth, Western Australia. Available from: <https://australia.chevron.com/our-businesses/wheatstone-project/environmental-approvals> [Accessed 14 May 2021].

Chevron Australia 2019. Jansz-Is Soundcape Monitoring Marine fauna acoustic detections 1 Jan to 31 Dec 2019. Chevron Energy Technology Pty Ltd, Perth, Western Australia.

Chiaradia, A., Dann, P., Jessop, R. and Collins, P., 2002. The diet of crested tern (*Sterna bergii*) chicks on Phillip Island, Victoria, Australia. Emu, 102(4), pp.367–371.

Chidlow, J., Gaughan, D. and McAuley, R. 2006. Identification of Western Australian Grey Nurse Shark Aggregation Sites: Final Report to the Australian Government, Department of the Environment and Heritage. In: Fisheries Research and Development Corporation (ed.), Fisheries Research Report, Perth, Department of Fisheries, Perth.

Christiansen, F., Vivier, F., Charlton, C., Ward, R., Amerson, A., Burnell, S. and Bejder, L. 2018. Maternal Body Size and Condition Determine Calf Growth Rates in Southern Right Whales. Marine Ecology Progress Series 592, 267–281. Fisheries Research Report, Perth, Department of Fisheries, Perth.

Christiansen, F., Uhart, M.M., Bejder, L., Clapham, P., Ivashchenko, Y., Tormosov, D., Lewin, N. and Sironi, M. 2022. Fetal Growth, Birth Size and Energetic Cost of Gestation in Southern Right Whales. The Journal of Physiology 600, 9, 2245–2266.

Clarke, R.H. 2010. The Status of Seabirds and Shorebirds at Ashmore Reef and Cartier and Browse Islands: Monitoring program for the Montara Well release – Pre-impact Assessment and First Post-impact Field Survey. Prepared on behalf of PTTEP Australasia and the Department of the Environment, Water, Heritage and the Arts, Australia (now the Department of Sustainability, Environment, Water, Population and Communities).

Clarke R.H., Carter M., Swann G., Thomson J. 2011. The status of breeding seabirds and herons at Ashmore Reef, off the Kimberley coast, Australia. Journal of the Royal Society of Western Australia, 94: 365–376.

Clarke, R.H. and Herrod, A. 2016. The status of seabirds and shorebirds at Ashmore Reef, Cartier Island & Browse Island. Final impact assessment for the Montara Oil Spill. Prepared on behalf of PTTEP Australasia and the Department of the Environment. Monash University, Melbourne, Australia.

Clarkson, C., Jacobs, Z., Marwick, B., Fullagar, R., Wallis, L., Smith, M., Roberts, R., Hayes, E., Lowe, K., Carah, X., Florin, S., McNeil, J., Cox, D., Arnold, L., Hua, Q., Huntley, J., Brand, H., Manne, T., Fairbairn, A., Shulmeister, J., Lyle, L., Salinas, M., Page, M., Connell, K., Park, G., Norman, K., Murphy, T. and Pardoe, C. 2017. Human occupation of northern Australia by 65,000 years ago. Nature (547) 306–310. Doi: <https://doi.org/10.1038/nature22968>.

Cleguer, C. and Marsh, H. 2023. An inventory of dugong aerial surveys in Australia. Report to the National Environmental Science Program. Centre for Tropical Water and Aquatic Ecosystem Research (TropWATER), Report 23/15, James Cook University. pp. 48. <https://www.nespmarinecoastal.edu.au/wp-content/uploads/2023/09/Project-1.20-Final-report-dugongs.pdf> [Accessed on 18/08/24].

Clarke, R.H. and Herrod, A. 2016. The status of seabirds and shorebirds at Ashmore Reef, Cartier Island & Browse Island. Final impact assessment for the Montara Oil Spill. Prepared on behalf of PTTEP Australasia and the Department of the Environment. Monash University, Melbourne, Australia.

Cliff, G. and Wilson, G. 1994. Natal sharks board's guide to sharks and other marine animals. Natal Sharks Board, 33 pp.

Commonwealth of Australia 2002a. Ningaloo Marine Park (Commonwealth Waters) Management Plan. Environment Australia, Canberra.

Commonwealth of Australia 2002b. Ashmore Reef National Nature Reserve and Cartier Island Marine Reserve (Commonwealth Waters) Management Plans. Environment Australia, Canberra.

Commonwealth of Australia 2006. A guide to the Integrated Marine and Coastal Regionalisation of Australia (IMCRA) version 4.0. Department of Environment and Heritage, Canberra, Australia. 16 pp.

Commonwealth of Australia 2010. Inclusion of a place in the National Heritage List, The Ningaloo Coast. Gazette Special. Published Wednesday, 6 Jan 2010. <https://www.dcceew.gov.au/sites/default/files/env/pages/96f9d558-fd97-4022-9e63-82c0e18349a1/files/10588104.pdf>.

Commonwealth of Australia 2011. Inclusion of a place in the National Heritage List, The West Kimberley. Gazette Special. Published 31 Aug 2011. https://www.environment.gov.au/heritage/laws/publicdocuments/pubs/106063_gazette_place_inclusion_20110831.pdf.

Commonwealth of Australia 2015a. Conservation Management Plan for the Blue Whale: A Recovery Plan under the *Environment Protection and Biodiversity Conservation Act 1999* 2015-2025. Canberra, ACT: Commonwealth of Australia. Available from: <http://www.environment.gov.au/biodiversity/threatened/publications/recovery/blue-whale-conservation-management-plan>.

Commonwealth of Australia 2015b. Sawfish and River Sharks Multispecies Recovery Plan. Canberra, ACT: Commonwealth of Australia. Available from: <http://www.environment.gov.au/biodiversity/threatened/publications/recovery/sawfish-river-sharks-multispecies-recovery-plan>.

Commonwealth of Australia 2015c. Wildlife Conservation Plan for Migratory Shorebirds. Canberra, ACT: Commonwealth of Australia. Available from: <https://www.environment.gov.au/system/files/resources/9995c620-45c9-4574-af8e-a7cfb9571deb/files/wildlife-conservation-plan-migratory-shorebirds.pdf>.

Commonwealth of Australia 2017. Recovery Plan for Marine Turtles in Australia. Australian Government, Canberra. Available from: <http://www.environment.gov.au/marine/publications/recovery-plan-marine-turtles-australia-2017>.

Commonwealth of Australia 2018. Threat abatement plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans. Canberra, ACT: Commonwealth of Australia. Available from: <https://www.environment.gov.au/biodiversity/threatened/publications/tap/marine-debris-2018>.

Commonwealth of Australia 2020a. Wildlife Conservation Plan for Seabirds. Canberra, ACT: Commonwealth of Australia. Available from: <https://www.dcceew.gov.au/environment/biodiversity/publications/wildlife-conservation-plan-seabirds-2022>.

Commonwealth of Australia 2020b. National recovery Plan for the Australian Fairy Tern (*Sternula nereis nereis*). Department of Agriculture, Water and the Environment, Canberra. <http://www.dcceew.gov.au/environment/biodiversity/threatened/publications/recovery/fairy-tern-2022>.

Commonwealth of Australia 2021. Indian Ocean Territories Marine Parks. Parks Australia. Available from: <https://parksaustralia.gov.au/marine/parks/indian-ocean-territories/>.

Condie, S.A, Andrewartha, J., Mansbridge, J. and Waring, J.R. 2006. Modelling circulation and connectivity on Australia's North West Shelf, Technical Report No. 6, North West Shelf Joint

- Environmental Management Study, CSIRO Marine and Atmospheric Research, Hobart, Tasmania.
- Corrigan, S., Lowther, A.D., Beheregaray, L. B, Bruce, B.D., Cliff, G., Duffy, C.A, Foulis, A., Francis, M.P., Goldsworthy, S.D., Hyd, J. R., Jabado, R.W, Kacev, D., Marshall, L., Mucientes G.R., Naylor, G.J.P., Pepperell, J.G., Queiroz, N., Whit, W.T, Wintner, S. P., Rogers, P.J. 2018. Population Connectivity of the Highly Migratory Shortfin Mako (*Isurus oxyrinchus Rafinesque* 1810) and Implications for Management in the Southern Hemisphere. *Conservation and Restoration Ecology* 6.
- Crawford, R., Cooper, J. Dyer, B., Upfold, L. Venter, AD., Whittington, P., Williams, AJ Wolfaardt, A. 2002. Longevity, inter-colony movements and breeding of Crested Terns in South Africa. *Emu*. 102. 10.1071/MU01009.
- Currey-Randall LM, Galaiduk R, Stowar M, Vaughan BI, Miller KJ. 2021. Mesophotic fish communities of the ancient coastline in Western Australia. *PLoS ONE* 16(4): e0250427. <https://doi.org/10.1371/journal.pone.0250427>.
- D'Alberto, D.M., Chin, A., Smart, J.J., Baje, L., White, W.T. and Simpfendorfer, C.A. 2017. Age, growth and maturity of oceanic whitetip shark (*Carcharhinus longimanus*) from Papua New Guinea. *Marine and Freshwater Research* 68: 1118–1129.
- D'Anastasi, B., Simpfendorfer, C.A. and van Herwerden, L. 2013. In: The IUCN Red List of Threatened Species. Version 2013.2. *Anoxypristis cuspidata* (Narrow Sawfish). <http://www.iucnredlist.org/details/39389/0>.
- Davies, C.L., Tothill, T., Meeuwig, J.J. and Kyne, P.M., 2022. Garig Gunak Barlu National Park Green Sawfish (*Pristis zijsron*) aggregation surveys. <https://researchers.cdu.edu.au/en/publications/garig-gunak-barlu-national-park-green-sawfish- ipristis-zijsroni-a>.
- D'Cruz, A., Salgado Kent, C., Waples, K., Brown, A. M., Marley, S. A., Thiele, D., and Raudino, H. C. 2022. Ranging Patterns and Site Fidelity of Snubfin Dolphins in Yawuru Nagulagun/Roeback Bay, Western Australia. *Frontiers in Marine Science*, 8. <https://doi.org/10.3389/fmars.2021.758435>.
- Dawson, C.E. 1985. Indo-Pacific pipefishes (Red Sea to the Americas). Gulf Coast Research Laboratory, Ocean Springs, Mississippi, USA.
- De Lestang, S., and Walsh, A. 2023. West Coast Rock Lobster Resource Status Report 2023. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). 2023. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia pp. 41–46.
- Debens, H.A., McCorry, D., Sidenko, E., Erbe, C., Collet, O., Pevzner, R. and Gurevich, B. 2024. Whale detection and microseismic monitoring via Das using submarine telecommunications cables – a case study from the NWS, Western Australia. *Australian Energy Producers Journal* 64 (S1), S481-486. <https://doi.org/10.1071/EP23268>.
- del Hoyo, J., A. Elliott, D.A. Christie and J. Sargatal 1996. Handbook of the Birds of the World: Hoatzin to Auks. Barcelona: Lynx Edicions.
- Director of National Parks 2016. Kakadu National Park Management Plan 2016–2026.
- Done, T.J., Williams, D.McB., Speare, P.J., Davidson, J., DeVantier, L.M., Newman, S.J. and Hutchins, J.B. 1994. Surveys of coral and fish communities at Scott Reef and Rowley Shoals., Australian Institute of Marine Science, Townsville.
- Double, M., Gales, N., Jenner, K., Jenner, M., 2010. Satellite tracking of south-bound female humpback whales in the Kimberley region of Western Australia. Australian Marine Mammal Centre, Hobart.
- Double, M., Jenner, K., Jenner, M., Ball, I., Childerhouse, S., Loverick, S. and Gales, N. 2012. Satellite tracking of northbound humpback whales (*Megaptera novaeangliae*) off Western Australia. Australian Marine Mammal Centre, Hobart.

- Double, M.C., Andrews-Goff, V., Jenner, K.C.S., Jenner, M.N., Laverick, S.M., Branch, T.A. and Gales, N.J., 2014. Migratory movements of pygmy blue whales (*Balaenoptera musculus brevicauda*) between Australia and Indonesia as revealed by satellite telemetry. PLoS One, 9(4), p.e93578.
- Duffy, R., Quinn, A., Brooks, B. and Blazeski, S. 2023a. West Coast Nearshore and Estuarine Finfish Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 63–70.
- Duffy, R., Harris, D., Brooks, B., Blazeski, S. and Quinn, A. 2023b. South Coast Estuarine and Nearshore Scalefish and Invertebrate Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 213–221.
- Duffy, R., Harris, D., Brooks, B., Blazeski, S. and Quinn, A. 2023c. West Coast Nearshore and Estuarine Finfish Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/2023: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 63–71.
- Duffy, R., Harris, D., Brooks, B., McKinley, S. and Quinn, A. 2023d. South Coast Estuarine and Nearshore Scalefish and Invertebrate Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/2023: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 224–233.
- Dunlop, J.N. 1997. Foraging ranges marine habitat and diet of bridled terns breeding in Western Australia. Corella. 21 (3): 77-82.
- Dunlop, J. N. 2018. Fairy Tern (*Sternula nereis*) conservation in south-western Australia. Second Edition. Conservation Council (WA): Perth.
- Dunlop J.N., Surman C.A., Wooller R.D. 2001. The marine distribution of seabirds from Christmas Island, Indian Ocean, Emu - Austral Ornithology, 101:1, 19–24.
- Dunlop, J.N. and McNeill S. 2017. Local movements, foraging patterns, and heavy metals exposure in Caspian Terns *Hydroprogne caspia* breeding on Penguin Island, Western Australia. Marine Ornithology. 45:115–120.
- Dunlop, J.N. and Greenwell, C. 2022. A long tern view: distribution of small terns (*Sternula*) in Western Australia and implications for their conservation. Pacific Conservation Biology doi:10.1071/PC22016.
- Evans, S.N., Konzewitsch, N., & Bellchambers, L.M. 2022. Houtman Abrolhos Islands Fish Habitat Protection Area: A Summary of Marine Resource Use and Ecological Attributes. Fisheries Research Report No. 321. Department of Primary Industries and Regional Development, Western Australia. 174pp.
- Fairclough, D. and Walters, S. 2018. West Coast Demersal Scalefish Resource Status Report 2018. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2017/18: The State of the Fisheries eds. D.J. Gaughan and K. Santoro. Department of Primary Industries and Regional Development, Western Australia. pp. 56–62.
- Falkner, I., Whiteway, T., Przeslawski, R. and Heap, A.D. 2009. Review of ten key ecological features (KEFs) in the North-west Marine Region. Record 2009/13, Geoscience Australia, Canberra.
- Fayet, A.L., Sanchez, C. and Appoo, J. 2023. Marked differences in foraging area use and susceptibility to predation between two closely-related tropical seabirds. Oecologia 203, 167– 179 (2023). <https://doi.org/10.1007/s00442-023-05459-x>.

- Ferreira, L.C., Thums, M., Fossette, S., Wilson, P., Shimada, T., Tucker, A.D., Pendoley, K., Waayers, D., Guinea, M.L., Loewenthal, G., King, J., Speirs, M., Rob, D. and Whiting, S.D. 2021. Multiple satellite tracking datasets inform green turtle conservation at a regional scale. *Diversity and Distributions* 27(2): 249–266. <https://doi.org/10.1111/ddi.13197>.
- Ferreira, L.C., Davenport, A., Jenner, M., Jenner, C. and Thums, M. 2024. Technical note: cetacean sightings and observations made during the 2023 pygmy blue whale field work off Western Australia. A document prepared for Woodside Energy Ltd. Australian Institute of Marine Science, Perth (8 pp.).
- Field, I.C., Charters, R., Buckworth, R.C., Meekan, M.G. and Bradshaw, C.J.A. 2008. Distribution and abundance of *Glyphis* and sawfishes in northern Australia and their potential interactions with commercial fisheries. Report to Australian Government, Department of the Environment, Water, Heritage and the Arts. Canberra. 39 pp.
- Fletcher, W.J. and Santoro, K. (eds) 2009. State of the fisheries report 2008/09. Western Australian Department of Fisheries, Perth.
- Fletcher, W.J. and Santoro, K. (eds) 2015. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries. Department of Fisheries, Western Australia.
- Fletcher, W.J., Mumme, M.D. and Webster, F.J. (eds) 2017. *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2015/16: The State of the Fisheries*. Department of Fisheries, Western Australia.
- Fisher, E., Fairclough, D. and Walters, S. 2023. West Coast Demersal Scalefish Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 75–84.
- Fisher, E., Fairclough, D. and Walters, S. 2023a. West Coast Demersal Scalefish Resource Status Report. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). 2023. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia pp 76–84.
- Fossette, S., Ferreira, L. C., Whiting, S. D., King, J., Pendoley, K., Shimada, T., Speirs, M., Tucker, A. D., Wilson, P. and Thums, M. 2021a. Movements and distribution of hawksbill turtles in the Eastern Indian Ocean. *Global Ecology and Conservation*. 29. <https://doi.org/10.1016/j.gecco.2021.e01713>.
- Fossette S, Loewenthal G, Peel LR, Vitenbergs A, Hamel MA, Douglas C, Tucker AD, Mayer F, Whiting SD. 2021b. Using Aerial Photogrammetry to Assess Stock-Wide Marine Turtle Nesting Distribution, Abundance and Cumulative Exposure to Industrial Activity. *Remote Sensing*. 13(6):1116. <https://doi.org/10.3390/rs13061116>.
- Francis, M., Natanson, L. and Campana, S. 2002. The Biology and Ecology of the Porbeagle Shark, *Lamna nasus*. In: Camhi, M., E. Pikitch and E. Babcock, eds. *Sharks of the Open Ocean: Biology, Fisheries and Conservation*: 105–113.
- Gaughan, D.J. and Santoro, K. (eds), 2018. *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2016/17: The State of the Fisheries*. Department of Primary Industries and Regional Development, Western Australia.
- Gaughan, D.J. and Santoro, K. (eds). 2020. *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2018/19: The State of the Fisheries*. Department of Primary Industries and Regional Development, Western Australia.
- Gelsleichter, J., Musick, J.A. and Nichols, S. 1999. Food habits of the smooth dogfish, *Mustelus canis*, dusky shark, *Carcharhinus obscurus*, Atlantic sharpnose shark, *Rhizoprionodon terraenovae*, and the sand tiger, *Carcharias taurus*, from the northwest Atlantic Ocean. *Environmental Biology of Fishes* 54: 205–217.

- Gilmour, J.P., Smith, L.D., Heyward, A.J., Baird A.H. and Pratchett, M.S. 2013. Recovery of an isolated coral reef system following severe disturbance. *Science* 340(6128): 69–71.
- Gilmour, J.P., Cook, K.L., Ryan, N.M., Puotinen, M.L., Green, R.H., Shedrawi, G., Hobbs, J.P.A., Thomson, D.P., Babcock, R.C., Buckee, J. and Foster, T. 2019. The state of Western Australia's coral reefs. *Coral Reefs*, 38: 651–667.
- Gilmour, J., Sahin, D., Ryan, N. and Birt, M. 2023. Long Term Monitoring of Coral and Fish Communities at Scott Reef and Rowley Shoals: 2021. Report prepared for Woodside Energy Limited. Australian Institute of Marine Science, Perth (50 pp).
- Goldsworthy, S.D., Shaughnessy, P.D., MacKay, A.I., Bailleul, F., Holman, D., Lowther, A.D., Page, B., Waples, K., Raudino, H., Bryars, S. and Anderson, T. 2021. Assessment of the status and trends in abundance of a coastal pinniped, the Australian sea lion, *Neophoca cinerea*. *Endangered Species Research* 44: 421–437.
- Greenwell, C. 2021. Life history, ecology, and population dynamics of the Australian Fairy Tern and implications for their conservation. Research thesis, Murdoch University, Perth, Western Australia.
- Gosby, C., Erbe, C., Harvey, E.S., Figueroa Landero, M.M. and McCauley, R.D. 2022. Vocalizing humpback whales (*Megaptera novaeangliae*) migrating from Antarctic feeding grounds arrive earlier and earlier in the Perth Canyon, Western Australia. *Frontiers in Marine Science*, 9, p.1086763.
- Guinea, M.L. 2006. Sea Turtles, Sea Snakes and Dugongs of Scott Reef, Seringapatam Reef and Browse Island with Notes on West Lacepede Island. Report to URS, Charles Darwin University.
- Guinea, M.L. 2007a. Marine snakes: species profile for the north-western planning area, report for the Australian Government Department of the Environment, Water, Heritage and the Arts, Charles Darwin University, Northern Territory.
- Guinea, M.L. 2007b. Final report survey March 16 – April 2 2007: sea snakes of Ashmore Reef, Hibernia Reef and Cartier Island with comments on Scott Reef, Charles Darwin University, Darwin.
- Guinea, M.L. 2009. Long Term Marine Turtle Monitoring at Scott Reef. Report prepared for Woodside Pty Ltd.
- Guinea, M.L. and Whiting, S.D. 2005. Insights into the distribution and abundance of sea snakes at Ashmore Reef. *The Beagle* (Supplement 1): 199–206.
- Guinea, M. 2011. Long term monitoring of the marine turtles of Scott Reef satellite tracking of green turtles from Scott Reef #1 (p. 35). Appendix F27. Report prepared by Sinclair Knight Merz. Browse LNG Development.
- Hallenburger, M., Reuning, L., Takayanagi, H., Iryu, Y., Keul, N., Ishiwa, T. and Yokoyama, Y. 2022. The pteropod species *Heliconoides inflatus* as an archive of late Pleistocene to Holocene environmental conditions on the Northwest Shelf Australia. *Progress in Earth and Planetary Science* 9:49. <https://doi.org/10.1186/s40645-022-00507-1>.
- Hallegraeff, G.M. 1995. Marine phytoplankton communities in the Australian region: current status and the future threats. Our sea, our future: major findings of the State of the Marine Environment Report for Australia. Great Barrier Reef Marine Park Authority, Canberra, Australia.
- Hanf, D., Hunt, T. and Parra, G.J. 2016. Humpback dolphins of Western Australia: a review of current knowledge and recommendations for future management. *Advances in Marine Biology* 73: 193–218. <https://doi.org/10.1016/bs.amb.2015.07.004>.
- Hanf, D.M. 2015. Species Distribution Modelling of Western Pilbara Inshore Dolphins. Masters Research thesis. Murdoch University, Perth, Western Australia.
- Hanson, C.E., Pattiaratchi, C.B. and Waite, A.M. 2005. Seasonal production regimes off south-western Australia: influence of the Capes and Leeuwin Currents on phytoplankton dynamics. *Marine and Freshwater Research* 56(7): 1011–1026.

- Hanson, C.E., Waite, A.M., Thompson, P.A. and Pattiaratchi, C.B. 2007. Phytoplankton community structure and nitrogen nutrition in Leeuwin Current and coastal waters off the Gascoyne region of Western Australia. *Deep Sea Research Part II: Topical Studies in Oceanography* 54 (8–10): 902–924.
- Harris, P., Heap, A., Passlow, V., Sbaffi, L. Fellows, M., Porter-Smith, R., Buchanan, C., and Daniell, J. 2005. Geomorphic Features of the Continental Margin of Australia. *Geoscience Australia, Record* 2003/30, 142 pp.
- Harris, P.T., Heap, A., Marshall, J., Hemer, M., Daniell, J., Hancock, A., Buchanan, C., Brewer, D. and Heales, D. 2007. Submerged coral reefs and benthic habitats of the southern Gulf of Carpentaria: post survey report GA survey 276, RV Southern Surveyor, Record 2007/02, Geoscience Australia, Canberra.
- Hart, A., Murphy, D. and Steele, A. 2023a. Sea Cucumber Resource Status Report. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries* eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 180–191.
- Hart, A., Murphey, D. and Brown, S. 2023b. Pearl Oyster Managed Fishery Resource Status Report. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries* eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 176–182.
- Hart, A., Bruce, C. and Steele, A. 2023c. Statewide Specimen Shell Resource Status Report. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries* eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 269–271.
- Hart, A., Murphy, D. and Blay, N. 2023d. West Coast Octopus Resource Status Report. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries* eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 58–62.
- Hart, A., Murphy, D. and Moore, N. 2023e. Pearl Oyster Managed Fishery Resource Status Report 2023 In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries*. Department of Primary Industries and Regional Development, Western Australia pp. 184–187
- Hart, A., Bruce, C. and Steele, A. 2023f. Statewide Specimen Shell Resource Status Report. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/2023: The State of the Fisheries* eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 286–289
- Hart, A., Murphy, D. and Bouwer, K. 2023g. West Coast Octopus Resource Status Report 2023. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries*. Department of Primary Industries and Regional Development, Western Australia pp 59–63.
- Hart, A., Murphy, D., and Steele, A. 2023h. Sea Cucumber Resource Status Report 2023 In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries*. Department of Primary Industries and Regional Development, Western Australia pp. 187–190.
- Hassell, C.J. 2003. A bird survey with the Australian Quarantine Inspection Service of some Kimberley islands and Ashmore Reef. Unpubl. report to Australian Quarantine Service.
- Haughey, R., Hunt, T.N., Hanf, D., Passadore, C., Baring, R., Parra, G.J. 2021. Distribution and Habitat Preferences of Indo-Pacific Bottlenose Dolphins (*Tursiops aduncus*) Inhabiting Coastal Waters With Mixed Levels of Protection. *Frontiers in Marine Science* 8:617518.doi:

10.3389/fmars.2021.617518.

Heck Jr., K.L., Hays, G. and Orth, R.J. 2003. Critical evaluation of the nursery role hypothesis for seagrass meadows. *Marine Ecology Progress Series* 253: 123–136.

Hedley, S.L., Bannister, J.L. and Dunlop, R.A. 2011. Abundance estimates of Breeding Stock 'D' humpback whales from aerial and land-based surveys off Shark Bay, Western Australia, 2008. *Journal of Cetacean Research Management* (special issue 3): 209–21.

Heyward, A.J., Halford, A.R., Smith, L.D. and Williams, D.M. 1997. Coral reefs of north west Australia: baseline monitoring of an oceanic reef ecosystem. In: *Proceedings on 8th International Coral Reef Symposium 1*: 289–294.

Heyward, A.J., Revill, A.T. and Sherwood, C.R. 2000. Review of Research and Data Relevant to Marine Environmental Management of Australia's North West Shelf, Produced for the Western Australian Department of Environmental Protection. (Unpublished report).123 pp.

Heyward, A.J. and Radford, B. 2019. Northwest Australia. In: Loya, Y., Puglise, K. Bridge, T. (eds) *Mesophotic Coral Ecosystems. Corals Reefs of the World, Volume 12*, p 337-349. <https://link.springer.com/book/10.1007/978-3-319-92735-0>.

Higgins, P.J. and Davies, S.J.J.F. (eds) 1996. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 3: Snipe to Pigeons*. Oxford University Press, Melbourne.

Holley, D.K., Lawler, I.R. and Gales, N.J. 2006. Summer survey of dugong distribution and abundance in Shark Bay reveals additional key habitat area. *Wildlife Research* 33: 243-250. <https://doi.org/10.1071/WR05031>.

Holloway, P. 2001. A regional model of the semidiurnal internal tide on the Australian North West Shelf. *Journal of Geophysical Research* 106: 19625–19638.

Holloway, P. and Nye, H.C. 1985. Leeuwin Current and wind distributions on the southern part of the Australian North West Shelf between January 1982 and July 1983. *Australian Journal of Marine and Freshwater Research* 36: 123–137.

Hoschke, A. M., Whisson, G. J., Haulsee, D. 2023. Population distribution, aggregation sites and seasonal occurrence of Australia's western population of the grey nurse shark *Carcharias taurus*. *Endangered Species Research* 50:107–123.

How, J., Coughran, D., Smith, J., Double, M., Harrison, J., McMath, J., Hebiton, B., Denham, A., 2015. Effectiveness of mitigation measures to reduce interactions between commercial fishing gear and whales. FRDC Final Report 2013/037. Department of Fisheries Western Australia, Perth. 120 pp. https://www.bycatch.org/sites/default/files/How_etal_2015.pdf.

How, J. and Baudains, G. West Coast Deep Sea Crustacean Resource Status Report 2021. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2020/21: The State of the Fisheries* eds. B.S. Wise, D.J. Gaughan, K.G. Santoro and S.J. Newman. Department of Primary Industries and Regional Development, Western Australia. pp. 116–120.

How, J. and Wiberg, L. 2023a. West Coast Deep Sea Crustacean Resource Status Report. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries* eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 125–129.

How, J. and Wiberg, L. 2023b. South Coast Crustacean Resource Status Report. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries* eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 201–207.

How, J., Tuffley, E., and Wiberg, L. 2023c. West Coast Deep Sea Crustacean Resource Status Report 2023. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/2023: The State of the Fisheries* eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan,

- D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 127–133.
- How, J., Tuffley, E., and Wiberg, L. 2023d. South Coast Crustacean Resource Status Report 2023. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/2023: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 211–217.
- Howey-Jordan, L.A., Brooks, E.J., Abercrombie, D.L., Jordan, L.K., Brooks, A., Williams, S., Gospodarczyk, E. and Chapman, D.D. 2013. Complex movements, philopatry and expanded depth range of a severely threatened pelagic shark, the oceanic whitetip (*Carcharhinus longimanus*) in the western North Atlantic. PloS One 8:e56588. <https://doi:10.1371/journal.pone.0056588>.
- Hunt, T.N., Bejder, L., Allen, S.J., Rankin, R.W., Hanf, D. and Parra, G.J. 2017. Demographic characteristics of Australian humpback dolphins reveal important habitat toward the southwestern limit of their range. Endangered Species Research 32: 71–88. <https://doi.org/10.3354/esr00784>.
- Irvine, L.G., Thums, M., Hanson, C.E., McMahon, C.R. and Hindell, M.A. 2017. Evidence for a widely expanded humpback whale calving range along the Western Australian coast. Marine Mammal Science 34(2): 294-310. <https://doi.org/10.1111/mms.12456>.
- Irvine, L.G. and Salgado Kent, C., 2019. The distribution and relative abundance of marine mega-fauna, with a focus on humpback whales. Exmouth Gulf, Western Australia. Attachment 2J Humpback Whale Aerial Survey Report, Subsea, 7.
- Jackson, G., Walters, S. and Turner, S. 2021a. Gascoyne Demersal Scalefish Resource Status Report 2021. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2020/21: The State of the Fisheries eds. B.S. Wise, D.J. Gaughan, K.G. Santoro and S.J. Newman. Department of Primary Industries and Regional Development, Western Australia. pp. 120–126.
- Jackson, G., and Nolan, D. 2023b. Gascoyne Inner Shark Bay Scalefish Resource Status Report 2023. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia pp 140–146.
- Jackson, G., Walters, S., Fisher, E., and Rynvis, L. 2023c. Gascoyne Demersal Scalefish Resource Status Report 2023. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 133–139.
- James, N.P., Bone, Y., Kyser, T.K., Dix, G.R. and Collins, L.B. 2004. The importance of changing oceanography in controlling late Quaternary carbonate sedimentation on a high-energy, tropical, oceanic ramp: north-western Australia. Sedimentology 51: 1179–1205.
- Jefferson, T.A. and Rosenbaum, H.C. 2014. Taxonomic revision of the humpback dolphins (*Sousa* spp.), and description of a new species from Australia. Marine Mammal Science 30(4): 1494-1541.
- Jenner, K., Jenner, M. and McCabe, K. 2001. Geographical and temporal movements of humpback whales in Western Australian waters. APPEA Journal 41: 692–707.
- Jenner, C., Jenner, M., Burton, C., Sturrock, V., Salgado Kent, C., Morrice, M., Attard, C., Möller, L. and Double, M. 2008. Mark recapture analysis of pygmy blue whales from the Perth Canyon, Western Australia 2000–2005. Paper SC/60/SH16 presented to the Scientific Committee of the International Whaling Commission.
- Johnstone, R.E., Burbidge, A. and Darnell, J. 2013. Birds of the Pilbara region, including seas and offshore islands, Western Australia: distribution, status and historical changes. Records of the Western Australian Museum, Supplement. 78. 343. 10.18195/issn.0313- 122x.78(2).2013.343–441.
- Johnstone, R.E. and Storr, G.M. 1998. Handbook of Western Australian Birds. Vol. 1 – Non-Passerines, Emu to Dollarbird. (Western Australian Museum: Perth).
- Johnston, D., Harris, D. and Blazeski, S. 2020a. North Coast Crab Resource Status Report 2020. In:

of Primary Industries and Regional Development, Western Australia. pp. 155–616.

Kangas, M., Wilkin, S., Leaversuch, R. and Grounds, G. 2023b. Saucer Scallop Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 106–112.

Kangas, M., Wikin, S., Koefoed I. and Grounds, G. 2023c. Exmouth Gulf Prawn Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 117–124.

Kangas, M., Wilkin, S., Cavalli, P. and Grounds, G. 2023d. Shark Bay Prawn Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 117–124.

Keller, K., Blake, S., Cao, A. 2023. Western Deepwater Trawl Fishery. In: Fishery Status Reports 2023. Butler, I., Patterson, H., Bromhead, D., Galeano, D., Timmiss, T., Woodhams, J., Curtotti, R., 2023. Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. pp. 249–256. <https://doi.org/10.25814/vqp4-xr81>.

Keller, K., Curtotti, R. 2023. North West Slope Trawl Fishery. In: Fishery Status Reports 2023.

Kim Oanh, N. T., Permadi, D. A., Hopke, P. K., Smith, K. R., Phan Dong, N., Nguyet Dang, A. 2018. Annual emissions of air toxics emitted from crop residue open burning in Southeast Asia over the period of 2010-2015. *Atmospheric Environment* 187: 163–173.

Kimberley Land Council. n.d. Ranger/IPA Map. <https://www.klc.org.au/ranger-ipa-map>. [Accessed 17 August 2023].

Kingsley, M. R., Lavers, J. L., Steeves, T. E., & Burrridge, C. P. (2019). Genetic distinctiveness of Masked Booby (*Sula dactylatra*) on Bedout Island, Western Australia. *Emu - Austral Ornithology*, 120(2), 150–155. <https://doi.org/10.1080/01584197.2019.1663125>.

Kirkwood, R., Pemberton, D. and Copson, G. 1992. The conservation and management of seals in Tasmania. Hobart: Department of Parks, Wildlife and Heritage. 48 pp.

Kobryn, H.T., Beckley, L.E., Wouters, K. 2022. Bathymetry Derivatives and Habitat Data from Hyperspectral Imagery Establish a High-Resolution Baseline for Managing the Ningaloo Reef, Western Australia. *Remote Sensing* 14, 1827. <https://doi.org/10.3390/rs14081827>.

Kyne, P. M., Heupel, M. R., White, W. T. and Simpfendorfer, C. A. 2021. The Action Plan for Australian Sharks and Rays. National Environmental Science Program, Marine Biodiversity Hub, Hobart.

Last, P., Lyne, V., Yearsley, G., Gledhill, D., Gommon, M., Rees, T. and White, W. 2005. Validation of national demersal fish datasets for the regionalisation of the Australian continental slope and outer shelf (>40 m depth). Australian Government Department of the Environment and Heritage and CSIRO Marine Research, Australia.

Last, P.R., and Stevens, J.D. 2009. Sharks and rays of Australia, 2nd edition, CSIRO Publishing, Melbourne.

Le Corre M., Ollivier A., Ribes, S., and Jouventin, P. 2002. Light-induced mortality of petrels: a 4-year study from Réunion Island (Indian Ocean). *Biological Conservation* 105:93-102.

Lewis, P., Blay, N. and Watt, M. 2020. Statewide Large Pelagic Finfish Resource Status Report 2020. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2019/20: The State of the Fisheries eds. D.J. Gaughan and K. Santoro. Department of Primary Industries and Regional Development, Western Australia. pp. 241–247.

- Lewis, O. and Watt, M. 2023. Statewide Large Pelagic Finfish Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 255–261.
- Lewis, P., Rynvis, L. 2023. Statewide Large Pelagic Finfish Resource Status Report. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). 2023. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia pp.
- Limpus, C.J. 1992. Estimation of tag loss in marine turtle research. *Wildlife Research* 19: 457–469. <https://doi.org/10.1071/WR9920457>.
- Limpus, C.J. 2009. A biological review of Australian marine turtles. Environmental Protection Agency, Brisbane, QLD.
- Limpus, C.J., Parmenter, C.J., Baker, V. and Fleay, A. 1983. The Flatback Turtle, *Chelonia depressa*, in Queensland: Post-Nesting Migration and Feeding Ground Distribution. *Wildlife Research* 10: 557–561. <https://doi.org/10.1071/WR9830557>.
- Liu, Q.Y., Feng, M., Wang, D. and Wijffels, S. 2015. Interannual variability of the Indonesian Throughflow transport: a revisit based on 30 year expendable bathythermograph data. *Journal of Geophysical Research: Oceans* 120: 8270–8282.
- Locarnini, R. A., Mishonov, A. V., Baranova, O. K., Boyer, T. P., Zweng, M. M., Garcia, H. E., Reagan, J. R., Seidov, D., Weathers, K. w., Paver, C. R. & Smolyar, I. V. 2018. Temperature. World Ocean Atlas 2018, Volume 1. A. Mishonov Technical Ed.; NOAA Atlas NESDIS 81.
- López, N.A., McAuley, R.B. and Meeuwig, J.J. 2022. Identification of the southernmost aggregation of scalloped hammerhead sharks (*Sphyrna lewini*) in Australia. *Austral Ecology*, 47: 717–722. <https://doi.org/10.1111/aec.13149>.
- Lourie, S.A., Foster, S.J., Cooper, E.W.T. and Vincent, A.C.J. 2004. A guide to the identification of seahorses. Project Seahorse and TRAFFIC North America, University of British Columbia and World Wildlife Fund. Available from: <https://cites.unia.es/cites/file.php/1/files/guide-seahorses.pdf> [Accessed 22 Sep 2020].
- Lourie, S.A., Vincent, A.C.J. and Hall, H.J. 1999. Seahorses: an identification guide to the world's species and their conservation. Project Seahorse, London, UK.
- Lukoschek, V., Beger, M., Ceccarelli, D., Richards, Z. and Pratchett, M. 2013. Enigmatic declines of Australia's sea snakes from a biodiversity hotspot. *Biological Conservation* 166: 191e202.
- Lulofs, H.M.A. and Sumner, N.R. 2002. Historical diving profiles for pearl oyster divers in Western Australia. Fisheries Research Report, 138.
- MAC – See Murujuga Aboriginal Corporation.
- Mackie, M., Gaughan, D.J. and Buckworth, R.C. 2003. Stock assessment of narrow-barred Spanish mackerel (*Scomberomorus commerson*) in Western Australia. FRDC Project No. 1999/151.
- Mackie, M., Nardi, A., Lewis, P. and Newman, S. 2007. Small pelagic fishes of the north-west marine region. Department of Fisheries, Perth.
- Marchant & Higgins 1990. *Fregata andrewsi* Christmas Frigatebird. In: Handbook of Australian, New Zealand and Antarctic Birds, Volume 1, Ratites to Ducks. Oxford University Press, Melbourne.
- Marsh, H., O'Shea, T.J. and Reynolds, J.R. 2011. The ecology and conservation of sirenia; dugongs and manatees. Cambridge University Press, London.
- Marsh, H., Penrose, H., Eros C. and Hugues, J. 2002. Dugong Status Report and Action Plans for Countries and Territories. Early Warning Assessment Reports. United Nations Environment Programme, Nairobi.

- Marsh, H., Prince, R.I.T., Saafeld, W.K. and Shepherd, R. 1994. The distribution and abundance of the dugong in Shark Bay, Western Australia. *Wildlife Research* 21: 149–161. <https://doi.org/10.1071/WR9940149>.
- Marshall, A., Bennett, M., Kodja, G., Hinojosa-Alvarez, S., Galvan-Magana, F., Harding, M., Stevens, G. and Kashiwaga, T. 2011. *Manta birostris* (Chevron Manta Ray, Giant Manta Ray, Oceanic Manta Ray, Pacific Manta Ray, Pelagic Manta Ray) [WWW Document]. The IUCN Red List of Threatened Species. Accessed at <http://www.iucnredlist.org/details/198921/0>.
- Marshall, A.D., Compagno, L.J. and Bennett, M.B. 2009. Redescription of the genus *Manta* with resurrection of *Manta alfredi* (Krefft, 1868) (Chondrichthyes; Myliobatoidei; Mobulidae). *Zootaxa* 2301: 1–28.
- Martin, R.A. 2007. A review of behavioural ecology of whale sharks. *Fisheries Research* 84: 10–16.
- McAuley, R. 2004. Western Australian Grey Nurse Shark Pop Up Archival Tag Project. Final Report to Department of Environment and Heritage. Department of Fisheries, Western Australia. 49 pp.
- McCauley, R.D. 2011a. Fugro Scarborough Sea Noise Logger Program: January 2010 to January 2011. Report R2011-50. Fugro Survey on behalf of ExxonMobil. 68 pp.
- McCauley, R. 2011b. Woodside Kimberley sea noise logger program, Sept-2006 to June-2009: Whales, Fish and Man-made Noise. Report produced for Woodside Energy Ltd.
- McCauley, R. and Duncan, A. 2011. Sea noise logger deployment, Wheatstone and Onslow, April 2009 to November 2010 (Technical Report No. R2011-23). Centre for Marine Science and Technology, Curtin University of Technology, Perth.
- McCauley, R. and Jenner, C. 2010. Migratory patterns and estimated population size of pygmy blue whales (*Balaenoptera musculus brevicauda*) traversing the Western Australian coast based on passive acoustics. Paper SC/62/SH26 presented to the IWC Scientific Committee, June 2010, Agadir, Morocco (unpublished). 9 pp.
- McCauley, R., Jenner, C., Bannister, J., Cato, D. and Duncan, A. 2000. Blue whale calling in the Rottnest trench, Western Australia, and low frequency sea noise. *Acoustics Australia / Australian Acoustical Society*: 245–250.
- McCauley, R., Salgado Kent, C., Gavrilov, A., Recalde-Salas, A., Burton, C. and Marley, S. 2004. Passive acoustic monitoring of baleen whales in Geographe Bay, Western Australia. *Acoustics Australia Proceedings of Acoustics 2004 November Gold Coast*.
- McCauley, R.D., Gavrilov, A.N., Jolliffe, C.D., Ward, R. and Gill, P.C. 2018. Pygmy blue and Antarctic blue whale presence, distribution and population parameters in southern Australia based on passive acoustics. *Deep-Sea Research Part II: Topical Studies in Oceanography* 157–158: 154–168.
- McClatchie, S., Middleton, J.F. and Ward, T.M. 2006. Water mass analysis and alongshore variation in upwelling intensity in the eastern Great Australian Bight. *Journal of Geophysical Research, Oceans* 111(C8). <https://doi.org/10.1029/2004JC002699>.
- McCosker, J. 1975. Feeding behavior of Indo-Australian hydrophiidae. *The biology of sea snakes* 1: 217–232.
- McDonald, E.M. and Phillips, T. 2021. Report of an Ethnographic Consultation Regarding Woodside's Scarborough Gas Project & Submerged Landscape, Pilbara, Western Australia – Phase I. Report by Ethnoscience to Murujuga Aboriginal Corporation.
- McDuie, F. and Congdon, B.C. 2016. Trans-equatorial migration and non-breeding habitat of tropical shearwaters: implications for modelling pelagic Important Bird Areas. *Marine Ecology Progress Series*, 550, 219–234.
- McLeay, L.J., Page, B., Goldsworthy, S.D., Ward, T.M., Paton, D.C., Waterman, M. and Murray, M.D., 2009. Demographic and morphological responses to prey depletion in a crested tern (*Sterna*

bergii) population: can fish mortality events highlight performance indicators for fisheries management?. ICES Journal of Marine science, 66(2), pp.237–247.

Mcleay, L., Page, B., Goldsworthy, S., Paton, D., Teixeira, C., Burch, P., Ward, T. 2010. Foraging behaviour and habitat use of a short-ranging seabird, the crested tern. Marine Ecology Progress Series. 411. 271–283. 10.3354/meps08606.

McNiven, I. 2004. Saltwater People: spiritscapes, maritime rituals and the archaeology of Australian indigenous seascapes. World Archaeology, 35(3): 329–349.

Meekan and Radford 2010. Migration Patterns of Whale Sharks; A summary of 15 satellite tag tracks from 2005 to 2008. Report for Woodside Energy Ltd to support Browse.

Menezes, V.V., Phillips, H.E., Schiller, A., Domingues, C.M. and Bindoff, N.L. 2013. Salinity dominance on the Indian Ocean Eastern Gyral current. Geophysical Research Letters 40: 5716–5721.

MetOcean Engineers, 2005, Preliminary metocean conditions for the Browse Development (Prospective Production Facilities/Areas, Pipeline Routes/Shore Crossings and Flow- Lines/Seabed Manifolds), Scott Reef Vicinity to Shore. Report produced for Woodside Energy Limited.

Miller, K, Depczynski, M., Cappel, M. Wakeford, M., Speed, C., Stowar, M., Colquhoun, J., Tinkler, P., Cheal, A., Fisher, R., Johansson, C., Noble, M. and Radford, B. (2015). Ningaloo and Outer Shark Bay Environmental Baseline Survey 2014. Report prepared for Woodside Energy Ltd by the Australian Institute of Marine Science, Townsville. 2015 (117 pp).

Milton, D.A. 2005. Birds of Ashmore Reef National Nature Reserve: an assessment of its importance for seabirds and waders. The Beagle, Records of the Museums and Art Galleries of the Northern Territory Supplement 1 133–141.

Minton, C. Wahl, J., Jessop, R., Hassell, C., Collins, P. Gibbs, H. 2006. Migration routes of waders which spend the non-breeding season in Australia. Stilt. 50. 135–157.

Minton, S., Heatwole, H. and Dunson, W. 1975. Sea snakes from reefs of the Sahul Shelf. University of Maryland Press, 1: 141–144.

Miyazaki, S. and Stagg, H. 2013. Exmouth Plateau [WWW Document]. Geoscience Australia: National Geological Provinces Online Database. Available at: <http://www.ga.gov.au/provexplorer/provinceDetails.do?eno=30351>.

Mott R., Herrod A., Clarke, R.H. 2017. Post-breeding dispersal of frigatebirds increases their exposure to mercury, Marine Pollution Bulletin, Volume 119, Issue 1, pp. 204–210.

Mollet, H., Cliff, G., Pratt Jr, H. and Stevens, J. 2000. Reproductive biology of the female shortfin mako, *Isurus oxyrinchus* Rafinesque, 1810, with comments on the embryonic development of lamnoids. Fishery Bulletin – National Oceanic and Atmospheric Administration 98(2): 299–318.

Molony, B., Lai, E., and Jones, R. 2015. Mackerel Managed Fishery Report: Statistics Only. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries* eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 207–210.

Möller, L.M., Attard, C.R.M., Bilgmann, K., Andrews-Goff, V., Jonsen, I, Paton, D. and Double, M.C. 2020. Movements and behaviour of blue whales satellite tagged in an Australian upwelling system. Nature Scientific Reports 10:21165. <https://www.nature.com/articles/s41598-020-78143-2>.

Morrice, M.G., Gill, P.C., Hughes, J. and Levings, A.H. 2004. Summary of aerial surveys for the Santos Ltd EPP32 seismic survey, 2–13 December 2003. Report WEG-SO 02/2004 to Santos Ltd. Whale Ecology Group, Deakin University, Warrnambool.

Mott R., Herrod A., Clarke, R.H. 2017. Post-breeding dispersal of frigatebirds increases their exposure to mercury, Marine Pollution Bulletin, Volume 119, Issue 1, pp. 204–210.

- Mott R., Herrod A., Clarke, R.H. 2021. Transboundary priorities for protection of frigatebird non-breeding habitat in a heavily impacted region, *Global Ecology and Conservation*, Volume 27.
- Moustaka, M., Evans, R.D., Kendrick, G.A., Hyndes, G.A., Cuttler, M.V.W., Bassett, T.J., O'Leary, M.J., Wilson, S.K. 2024. Local habitat composition and complexity outweigh seascape effects on fish distributions across a tropical seascape. *Landscape Ecology*, 39(28).
- Murujuga Aboriginal Corporation 2021. Cultural Values of the Environment for Scarborough DSDMP: Consultation Report on Mermaid Sound. Unpublished Report to Woodside Energy Limited by Murujuga Aboriginal Corporation, Dampier, WA.
- Mustika, P.L. K., Ratha, I.M.J., Setyawan, E., Prinanda, M.O., Rusydi, R., Purnomo, F.S. and Fuazi, I. 2024. The first record of the southbound movement of satellite-tagged pygmy blue whales (*B. m. breviceauda*) from Savu Sea (Indonesia) to the subantarctic waters. *Marine Mammal Science* 2024:e13167. <https://onlinelibrary.wiley.com/doi/epdf/10.1111/mms.13167>.
- Mustoe, S., and Edmunds, M. (2008). Coastal and Marine natural values of the Kimberley. Produced for WWF-Australia by: AES Applied Ecology Solutions Pty Ltd.
- Newman, S.J., Wakefield, C., Skepper, C., Boddington, D., Blay, N., Jones, R. and Dobson, P. 2015. North Coast Demersal Fisheries Status Report 2015. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 189–206.
- Newman, S.J., Wakefield, C., Skepper, C., Boddington, D. and Smith, E. 2018. North Coast Demersal Resource Status Report 2017. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2016/17: The State of the Fisheries eds. D.J. Gaughan and K. Santoro. Department of Primary Industries and Regional Development, Western Australia. pp. 125–133.
- Newman, S.J., Wakefield, C., Skepper, C., Boddington, D. and Steele, A. 2021a. North Coast Demersal Resource Status Report 2021. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2020/21: The State of the Fisheries eds. B.S. Wise, D.J. Gaughan, K.G. Santoro and S.J. Newman. Department of Primary Industries and Regional Development, Western Australia. pp. 158–166.
- Newman, S.J., Wakefield, C., Skepper, C., Boddington, D. and Steele, A. 2021b. Statewide Marine Aquarium Fish and Hermit Crab Resources Status Report 2021. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2020/21: The State of the Fisheries eds.
- B.S. Wise, D.J. Gaughan, K.G. Santoro and S.J. Newman. Department of Primary Industries and Regional Development, Western Australia. pp. 252–258.
- Newman, S., Bruce, C. and Steele A. 2022. Statewide Marine Aquarium Fish and Hermit Crab Resources Status. In: In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 261–268.
- Newman, S., Bruce, C. and Steele A. 2023a. Statewide Marine Aquarium Fish and Hermit Crab Resources Status Report 2023 In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia pp. 279–285.
- Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds) 2023b. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia.
- Nicholson, L.W. 2002. Breeding strategies and community structure in an assemblage of tropical seabirds on the Lowendal Islands, Western Australia [PhD thesis]. Perth, Australia: Murdoch University. 327 pp.

Norman, B.M., Whitty, J.M., Beatty, S.J., Reynolds, S.D. and Morgan, D.L. 2017. Do they stay or do they go? Acoustic monitoring of whale sharks at Ningaloo Marine Park, Western Australia. *J Fish Biol.* 91(6): 1713–1720.

Northern Territory Government 2011. Cobourg Marine Park Plan of Management. Prepared by the Cobourg Peninsula Sanctuary and Marine Park Board and Parks and Wildlife Service of the Northern Territory, Department of Natural Resources, Environment, The Arts and Sport. https://depws.nt.gov.au/data/assets/pdf_file/0006/249045/Cobourg-Marine-Park.pdf.

Norriss, J. and Blazeski, S. 2020. South Coast Small Pelagic Scalefish Resource Status Report 2020. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2019/20: The State of the Fisheries* eds. D.J. Gaughan and K. Santoro. Department of Primary Industries and Regional Development, Western Australia. pp. 209–213.

Norriss, J. and Blazeski, S. 2023a. South Coast Small Pelagic Scalefish Resource Status Report. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries* eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 221–226.

Norriss, J. and Blazeski, S. 2023b. West Coast Small Pelagic Scalefish Resource Status Report. In: *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries* eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 70–75.

Norriss, J. and Blazeski, S. 2023c. South Coast Small Pelagic Scalefish Resource Status Report. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds) 2023. *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries*. Department of Primary Industries and Regional Development, Western Australia pp. 234–238.

Norriss, J. and Blazeski, S. 2023d. West Coast Small Pelagic Scalefish Resource Status Report. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). 2023. *Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries*. Department of Primary Industries and Regional Development, Western Australia pp.71–76.

O'Leary, M.J., Paumard, V., and Ward I. 2020. Exploring Sea Country through High-Resolution 3D Seismic Imaging of Australia's NW Shelf: Resolving Early Coastal Landscapes and Preservation of Underwater Cultural Heritage. *Quaternary Science Reviews* (239), 106353.

Ottewell, K., Coughran, D., Gall, M., Irvine, L. and Bryne, M. 2016. A Recent Stranding of Omura's Whale (*Balaenoptera omurai*) in Western Australia. *Aquatic Mammals*, 42(2): 193–197. DOI 10.1578/AM.42.2.2016.193.

Parra, G.J. 2006. Resource partitioning in sympatric delphinids: Space use and habitat preferences of Australian snubfin and Indo-Pacific humpback dolphins. *Journal of Animal Ecology* 75: 862–874.

Parra, G.J., Corkeron, P.J. and Marsh, H. 2006. Population sizes, site fidelity and residence patterns of Australian snubfin and Indo-Pacific humpback dolphins: implications for conservation. *Biological Conservation* 129: 167–180.

Parra, G.J., Corkeron, P.J. and Marsh, H. 2002. The Indo-Pacific humpback dolphin, *Sousa chinensis* (Osbeck, 1765) in Australian waters: a summary of current knowledge and recommendations for their conservation. Unpublished Report to the Scientific Committee of the International Whaling Commission, SC/54/SM27.

Parra, G.J. and D. Cagnazzi. 2016. Conservation Status of the Australian Humpback Dolphin (*Sousa sahulensis*) Using the IUCN Red List Criteria. *Advances in Marine Biology*. 73:157–192.

Paterson, A., Shellam, T., Veth, P., Mulvaney, K., Anderson, R., Dortch, J. and McDonald, J. 2019. The Mermaid? Re-envisioning the 1818 exploration of Enderby Island, Murujuga, Western Australia. *The Journal of Island and Coastal Archaeology*, 1–21. Paton, D. C. and Rogers, D. J. 200. Ecology of breeding fairy terns *Sterna nereis* in the Coorong. Final report for the Wildlife Conservation Fund.

- Paton, D.C. and Rogers, D.J. 2009. Ecology of breeding Fairy Terns *Sternula nereis* in the Coorong. Final report for the Wildlife Conservation Fund. Adelaide University, Adelaide.
- Patterson, H., Noriega, R., Georgeson, L., Larcombe, J. and Curtotti, R. 2017. Fishery status reports 2017, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0.
- Patterson, S.H., Larcombe, J., Woodhams, J. and Curtotti, R. 2020. Fishery status reports 2020, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. <https://doi.org/10.25814/5f447487e6749>.
- Patterson, H. and Dylewski, M. 2021a. Chapter 23: Southern Bluefin Tuna Fishery. In: *Fishery status reports 2021*, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0.
- Patterson, H. and Dylewski, M., 2023a. Southern Bluefin Tuna Fishery. In: *Fishery Status Reports 2023*. Batler, I., Patterson, H., Bromhead, D., Galeano, D., Timmiss, T., Woodhams, J., Curtotti, R., 2023. Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. pp. 344–351. <https://doi.org/10.25814/vgp4-xr81>.
- Patterson, H. and Dylewski, M. 2023b. Skipjack Tuna Fishery. In *Fishery Status Reports 2023*. Batler, I., Patterson, H., Bromhead, D., Galeano, D., Timmiss, T., Woodhams, J., Curtotti, R., 2023. Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. pp. 336–343. <https://doi.org/10.25814/vgp4-xr81>.
- Patterson, H., Bromhead, D. and Dylewski, M. 2023. Western Tuna and Billfish Fishery. In: *Fishery Status Reports 2023*. Batler, I., Patterson, H., Bromhead, D., Galeano, D., Timmiss, T., Woodhams, J., Curtotti, R., 2023. Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. pp.352-365. <https://doi.org/10.25814/vgp4-xr81>.
- Pearce, A., Buchan, S., Chiffings, T., D'Adamo, N., Fandry, C., Fearn, P., Mills, D., Phillips, R. and Simpson, C. 2003. A review of the oceanography of the Dampier Archipelago, Western Australia, in: Wells, F., Walker, D., Jones, D. (Eds.), *The Marine Flora and Fauna of Dampier, Western Australia*. Western Australian Museum, Perth, pp. 13–50.
- Peck, D. and Congdon, B. 2005. Colony-specific foraging behaviour and co-ordinated divergence of chick development in the wedge-tailed shearwater *Puffinus pacificus*. *Mar Ecol Prog Ser* Vol. 299: 289–296.
- Peel, L.R., Whiting, S.D., Pendoley, K., Whittock, P.A., Ferreira, L.C., Thums, M., Whiting, A.U., Tucker, A.D., Rossendell, J., McFarlane, G. and Fossette, S., 2024. I still call Australia home: Satellite telemetry informs the protection of flatback turtles in Western Australian waters. *Ecosphere*, 15(5), p.e4847.
- Pendoley, K.L. 2005. Sea turtles and the environmental management of industrial activities in North West Western Australia. PhD thesis, Murdoch University.
- Pendoley, K., Vitenbergs, A., Whittock, P. and Bell, C. 2016. Twenty years of turtle tracks: marine turtle nesting activity at remote locations in the Pilbara region, Western Australia. *Australian Journal of Zoology* 64. <https://doi.org/10.1071/ZO16021>.
- Pennycuik, C.J., Schaffner, F.C., Fuller, M.R., Obrecht III, H.H. and Sternberg, L., 1990. Foraging flights of the white-tailed tropicbird (*Phaethon lepturus*): radiotracking and doubly-labelled water. *Colonial Waterbirds*, pp.96–102.
- Physick, W.L. 2001. Meteorology and Air Quality of the Pilbara Region. CSIRO Atmospheric Research, Victoria. Available from: <https://www.wa.gov.au/system/files/2023-03/Meteorology-and-air-quality-of-the-Pilbara-region.pdf>.
- Pillans, R.D., Stevens, J.D., Peverell, S. and Edgar, S. 2008. Spatial distribution and habitat utilisation of the speartooth shark *Glyphis glyphis* in relation to fishing in Northern Australia.

Department of the Environment, Water, Heritage and the Arts, Canberra. 47 pp.

Pillans, R.D., Stevens, J.D., Kyne, P.M. and Salini, J. 2009. Observations on the distribution, biology, short-term movements and habitat requirements of river sharks *Glyphis* spp. in northern Australia. *Endangered Species Research* 10: 321–332.

Pitman, R.L., Totterdell, J.A., Fearnbach, H., Ballance, L.T., Durban, J.W. and Kemps, H. 2015. Whale killers: Prevalence and ecological implications of killer whale predation on humpback whale calves off Western Australia. *Marine Mammal Science* 31(2): 629-657. <https://doi.org/10.1111/mms.12182>.

Pogonoski, J.J., Pollard, D.A. and Paxton, J.R. 2002. Conservation Overview and Action Plan for Australian Threatened and Potentially Threatened Marine and Estuarine Fishes. Canberra, ACT: Environment Australia. Available from: <http://www.environment.gov.au/coasts/publications/marine-fish-action/pubs/marine-fish.pdf>.

Preen, A. 2004. Distribution, abundance and conservation status of dugongs and dolphins in the southern and western Arabian Gulf. *Biological Conservation* 118(2): 205–218.

Preen, A., Marsh, H., Lawler, I., Prince, R. and Shepherd, R. 1997. Distribution and abundance of dugongs, turtles, dolphins and other megafauna in Shark Bay, Ningaloo Reef and Exmouth Gulf, Western Australia. *Wildlife Research* 24: 185–208.

Prieto, R., Janiger, D., Silva, M.A., Waring, G.T. and Gonçalves, J.M. 2012. The forgotten whale: a bibliometric analysis and literature review of the North Atlantic sei whale *Balaenoptera borealis*. *Mammal Review* 42: 235–272. <https://doi.org/10.1111/j.1365-2907.2011.00195.x>.

Przeslawski, R., Daniell, J., Nichol, S., Anderson, T. and Barrie, J.V. 2011. Seabed Habitats and Hazards of the Joseph Bonaparte Gulf and Timor Sea, Northern Australia. Record 2011/040. Geoscience Australia, Canberra.

Przeslawski, R., Alvarez, B., Battershill, C. and Smith, T. 2014. Sponge biodiversity and ecology of the Van Diemen Rise and eastern Joseph Bonaparte Gulf, northern Australia. *Hydrobiologia* 730: 1–16.

Ramsar Convention Bureau 2000. Strategic Framework and Guidelines for the Future Development of the List of Wetlands of International Importance. Ramsar Convention Bureau, Gland, Switzerland.

Raudino, H., Hunt, T.N. and Waples, K.A. 2018. Records of Australian humpback dolphins (*Sousa sahulensis*) from an offshore island groups in Western Australia. *Marine Biodiversity Records* 11:14–20.

Raudino, H.C., Bouchet, P.J., Douglas, C., Douglas, R. and Waples, K., 2023. Aerial abundance estimates for two sympatric dolphin species at a regional scale using distance sampling and density surface modeling. *Frontiers in Ecology and Evolution*, 10, p.1086686.

Reardon, M.B., Gerber, L. and Cavanagh, R.D. 2006. *Isurus paucus*. The IUCN Red List of Threatened Species 2006.

Reinhold, L. and Whiting, A. 2014. High-density Loggerhead Sea Turtle Nesting on Dirk Hartog Island, Western Australia. *Marine Turtle Newsletter* 141: 7–10.

Richards, Z.T., Haines, L., Ross, C., Preston, S., Matthews, T., Terriaca, A., Black, E., Lewis, Y., Mannolini, J., Dean, P., Middleton, V. and Saunders, B. 2024. Deoxygenation following coral spawning and low-level thermal stress trigger mass coral mortality at Coral Bay, Ningaloo Reef. *Coral Reefs* 43:443-453. <https://doi.org/10.1007/s00338-024-02476-x>.

Risch, D., T. Norris, M. Curnock and Friedlaender, A. 2019. Common and Antarctic Minke Whales: Conservation status and future research directions. *Frontiers in Marine Science* vol. 6 <https://doi.org/10.3389/fmars.2019.00247>.

RPS 2010. Humpback whale monitoring survey, North West Cape. Report prepared for Woodside

Energy Ltd.

RPS 2012. Sediment quality surveys March-April 2011. Greater Western Flank Marine Environmental Baseline Studies. RPS Environment and Planning Pty Ltd, Perth.

Rob, D., Barnes, P., Whiting, S., Fossette, S., Tucker, T. and Mongan, T. 2019. Turtle activity and nesting on the Muiron Islands and Ningaloo Coast: Final Report 2018, Ningaloo Turtle Program. Report prepared for Woodside Energy Limited. Department of Biodiversity, Conservation and Attractions, Exmouth. 51 pp.

Rochester, W.A., Moeseneder, C.H., Miller, M.J., Milton, D.A., Fry, G.C., Griffiths, S.P., Pillans, R.D., Rothlisberg, P.C., Bustamante, R.H. and Butler, A.J. 2007. The North Marine Region marine bioregional plan: Information and analysis for the regional profile. Final report to the Department of the Environment and Water Resources. CSIRO Marine and Atmospheric Research.

Rock JC, Leonard ML, Boyne AW. 2007. Foraging habitat and chick diets of roseate tern, *Sterna dougallii*, breeding on Country Island, Nova Scotia. *Avian Conserv Ecol* 2:1–10.

Rosser, N.L. and Gilmour, J.P. 2008. New insights into patterns of coral spawning on Western Australian reefs. *Coral Reefs* 27: 345-349.

RPS 2016. Metocean Criteria Guidelines for MODU Mooring on Australia's North West Shelf.

Russell, G., Cagnazzi, D., Colefax, A., Sprogis, K.R. and Christiansen, F., 2024. Cost of migration and migratory timing in Western Australian humpback whales. *Marine Mammal Science*, 40(2), p.e13074.

Salgado Kent, C., Jenner, C., Jenner, M., Bouchet, P. and Rexstad, E. 2012. Southern Hemisphere breeding stock D humpback whale population estimates from North West Cape, Western Australia. *Journal of Cetacean Research and Management* 12(1): 29–38.

Santos, C. D., Campos, L. F. A .S., and Efe, M. A. 2018. Foraging habitat choice of white-tailed tropicbirds revealed by fine-scale GPS tracking and remote sensing. *PeerJ* 7. DOI 10.5441/001/1.649s6f21.

Saunders, D.A. and De Rebeira, P. 1985. The Birdlife of Rottnest Island. The Authors. Perth. A.H. & A.W. Reed Ltd, Sydney.

Saunders, R., Royer, F. and Clarke, M. 2011. Winter migration and diving behaviour of Porbeagle shark, *Lamna nasus*, in the Northeast Atlantic. *ICES Journal of Marine Science* 68(1): 166–174.

Schroeder, T., Lyne, V., Dekker, A.G. and Rathbone, C. 2009. Regional MODIS Satellite Data Study: Scott Reef. CSIRO report produced for Woodside Energy Ltd. CSIRO.

Serventy, D. L., Serventy, V. Warham, J. 1971. The Handbook of Australian Seabirds. (A.H. and A. W. Reed: Sydney.)

Shephard, J.M., Dunlop, J.N. and Bouten, W. 2018. Foraging movements of common noddies in the East Indian Ocean are dependent on breeding stage: implications for marine reserve design. *Pacific Conservation Biology* 25, 164–173.

Sheppard, J., Preen, A.R., Marsh, H., Lawler, I.R., Whiting S. and Jones, R.E. 2006. Movement heterogeneity of dugongs, *Dugong dugon* (Muller) over large spatial scales. *Journal of Experimental Marine Biology and Ecology* 334: 64–83.

Simpson, C.J., Cary, J.L. and Masini, R.J. 1993. Destruction of corals and other reef animals by coral spawn slicks on Ningaloo Reef, Western Australia. *Coral Reefs* 12: 185–191. <https://doi.org/10.1007/BF00334478>.

Sleeman, J.C., Meekan, M.G., Wilson, S.G., Jenner, K.C.S., Jenner, M.N., Boggs, G. and Bradshaw, C.J.A. 2007. Biophysical correlates of relative abundances of marine megafauna at Ningaloo Reef, Western Australia. *Marine and Freshwater Research* 58: 608–623.

- Smale, M.J. 2005. The diet of the ragged-tooth shark *Carcharias Taurus* Rafinesque 1810 in the Eastern Cape, South Africa. African Journal of Marine Science 27: 331–335. <https://doi.org/10.2989/18142320509504091>.
- Smith, K., Brown, J., Howard, A., Walshe, K. and Fissioli, J. 2011. Status Reports of the Fisheries and aquatic resources of Western Australia. Department of Climate Change, Energy, the Environment and Water, Western Australia, pp. 80–97.
- Smith, J.N., Double, M., Kelly, N., Charlton, C. and Bannister, J. 2022. Relative Abundance of the 'Western' Population of Southern Right Whales from an Aerial Survey Off Southern Australia: Final Report on 2021 Survey. Report to the National Environmental Science Program. Murdoch University (Lead organisation).
- Smyth, D. 2007. Sea Countries of the North-West: Literature review on Indigenous connection to and uses of the North West Marine Region. Sea countries of the North-west: Literature review on Indigenous connection to and uses of the North-west Marine Region (dcceew.gov.au).
- Somaweera, R. and Sanders, K. 2015. Guide to the Sea Snakes of the Kimberley Coast of Western Australia. Department of Parks and Wildlife, Western Australia. 10.13140/RG.2.1.2701.2960.
- Sommerfeld, J., Stokes, T., and Baker, G.B. 2015. Breeding success, mate-fidelity and nest-site fidelity in Red-tailed Tropicbirds (*Phaethon rubricauda*) on Christmas Island, Indian Ocean. Emu - Austral Ornithology, 115(3), 214–222. <https://doi.org/10.1071/MU14016>.
- Sporer, E., Kangas, M., Shanks, M. and Blay, N. 2015. North Coast Prawn Managed Fisheries Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries eds. Fletcher, W.J. and Santoro, K., Department of Fisheries, Western Australia, pp. 173–188.
- Stevens, J.D., Pillans, R.D. and Salini, J.P. 2005. Conservation assessment of *Glyphis glyphis* (speartooth shark), *Glyphis garicki* (northern river shark), *Pristis microdon* (freshwater sawfish) and *Pristis zijsron* (green sawfish). Report to Department of Environment and Heritage. Canberra. Australia. 84 pp.
- Stevens, J., McAuley, R., Simpfendorfer, C. and Pillans, R. 2008. Spatial distribution and habitat utilisation of sawfish (*Pristis* spp.) in relation to fishing in northern Australia. CSIRO Marine and Atmospheric Research, Hobart.
- Stevens, J.D., Bradford, R.W. and West, G.J. 2010. Satellite tagging of blue sharks (*Prionace glauca*) and other pelagic sharks off eastern Australia: depth behaviour, temperature experience and movements. Marine Biology 157: 575–591.
- Stokes, T. and Hinchey, M. 1990. Which small noddies breed at Ashmore Reef in the Indian Ocean? Emu 90: 269–271.
- Strahan, R. 1983. The Australian Museum Complete Book of Australian Mammals. London, United Kingdom: Angus and Robertson.
- Strain, L., Fabris, F. and Blay N. 2023a. South Coast Greenlip/Brownlip Abalone Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 207–212.
- Strain, L., Brown, J. and Jones, R. 2023b. West Coast Roe's Abalone Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 43–49.
- Strain, L., Brown, J., Blay, N. 2023c. West Coast Roe's Abalone Resource Status Report 2023. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries. Department of Primary

Industries and Regional Development, Western Australia pp 46–52.

Strain, L., Brown, J., Blay, N. 2023d. South Coast Greenlip/Brownlip Abalone Resource Status Report 2023. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia pp 218–224.

Stokes, T. and Hinchey, M. 1990. Which small noddies breed at Ashmore Reef in the Indian Ocean? *Emu* 90: 269–271.

Surman, C. A., and Wooller, R. D. 1995. The Breeding Biology of the Lesser Noddy on Pelsaert Island, Western Australia, *Emu - Austral Ornithology*, 95:1, 47–53, DOI: 10.1071/MU9950047.

Surman C.A. and Wooller RD. 2003. Comparative feeding ecology of five sympatric terns at a sub-tropical island in the eastern Indian Ocean. *J Zool* 259:219–230.

Surman, C. A., and Nicholson, L. W. 2009. A survey of the breeding seabirds and migratory shorebirds of the Houtman Abrolhos, Western Australia. *Corella*, 33(4):89–98.

Surman, C.A. and Nicholson, L.W. 2011. Ichthys Gas Field Development Project: literature review of seabirds in the vicinity of Ichthys Field infrastructure in the Browse Basin, Western Australia. Report prepared by Halfmoon Biosciences, Perth, for INPEX Browse, Ltd., Perth, Western Australia.

Surman, C. A. and Nicholson, L. W. 2015. Exmouth Sub-basin Marine Avifauna Monitoring Program: Final Report. Unpublished report prepared for Apache Energy Ltd. by Halfmoon Biosciences. 188 pp.

Surman, C.A., Burbidge, A.A. and Fitzhardinge, J. 2016. Long term population trends in the vulnerable Lesser Noddy at the Houtman Abrolhos, Western Australia. *Corella* 40: 69–75.

Surman, C., Nicholson, L., & Ayling, S. 2017. Foraging behaviour of the Lesser Noddy *Anous tenuirostris* from the eastern Indian Ocean: Insights from micro-geologging. *Marine Ornithology*. 45. 123–128.

Surman, C.A., Nicholson, L.W. and Philipps, R.A. 2018. Distribution and patterns of migration of a tropical seabird community in the Eastern Indian Ocean. *Journal of Ornithology* 158: 867–877.

Surman, C.A. 2019. Houtman Abrolhos – A Natural History. Halfmoon Biosciences. 192 pp.

Sutton, A.L., Jenner, K.C.S. and Jenner, M-N.M. 2019. Habitat associations of cetaceans and seabirds in the tropical eastern Indian Ocean. *Deep Sea Research Part II: Topical Studies in Oceanography* 166: 171–186.

Swann, G. 2002. Ornithological report for Lacepede Islands and Adele Island – October 2002 Kimberley Birdwatching, Broome (Unpublished, 15 pages).

Swann, G. 2005a. Occasional count no. 7, Ashmore Reef, 21 to 30 January 2002. *Stilt* 47: 26–33.

Swann, G. 2005b. Occasional count no. 8, Ashmore Reef, 23 January to 4 February 2003. *Stilt* 47: 34–39.

Swann, G. 2005c. Ornithological Report, Ashmore Reef 23 January to 5 February 2005. Kimberley Birdwatching, Broome. Swann G & T Willing 1997 Annotated list of the birds of the Lacepede Islands 15–19 December 1997. Unpublished report.

Thiele, D. and Gill P.C. 1999. Cetacean observations during a winter voyage into Antarctic sea ice south of Australia. *Antarctic Science* 11(1): 48–53.

Thomson, P.G., Pillans, R., Jaime, F.R., Harcourt, R.G., Taylor, M.D., Pattiaratchi, C.B. and McLean, D.L., 2021. Acoustic telemetry around western Australia's oil and gas infrastructure helps detect the presence of an elusive and endangered migratory giant. *Frontiers in Marine Science*, 8, p.631449.

Thorburn, D.C. 2006. Biology, ecology and trophic interactions of elasmobranchs and other fishes in riverine waters of northern Australia. PhD Thesis, Murdoch University, Perth, Western Australia.

Thorburn, D.C., Peverell, S.C., Stevens, J.D., Last, P.R. and Rowland, A.J. 2003. Status of freshwater and estuarine elasmobranchs in Northern Australia. Final Report to the Natural Heritage Trust, pp. 1–75.

Thorburn, D.C. and Morgan, D.L. 2004. The northern river shark *Glyphis* sp. C. (Carcharhinidae) discovered in Western Australia. *Zootaxa* 685: 1–8.

Thorburn, D.C., Morgan, D.L., Rowland, A.J., Gill, H.S. and Paling, E. 2008. Life history notes of the critically endangered dwarf sawfish, *Pristis clavata*, Garman 1906 from the Kimberley region of Western Australia. *Environmental Biology of Fishes* 83: 139–145.

Threatened Species Scientific Committee 2009. Commonwealth Listing Advice on *Galeorhinus galeus*. Department of the Environment, Water, Heritage and the Arts. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/68453-listing-advice.pdf>.

Threatened Species Scientific Committee 2013. Commonwealth Listing Advice on *Centrophorus zeehaani* (southern dogfish). Department of Sustainability, Environment, Water, Population and Communities. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/82679-listing-advice.pdf>.

Threatened Species Scientific Committee 2013a. Conservation Advice *Rostratula australis* Australian painted snipe. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/77037-conservation-advice.pdf>.

Threatened Species Scientific Committee 2015a. Conservation Advice *Balaenoptera borealis* sei whale. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/34-conservation-advice-01102015.pdf>.

Threatened Species Scientific Committee 2015b. Conservation Advice *Megaptera novaeangliae* humpback whale. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/38-conservation-advice-10102015.pdf>.

Threatened Species Scientific Committee 2015c. Conservation Advice *Balaenoptera physalus* fin whale. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/37-conservation-advice-01102015.pdf>.

Threatened Species Scientific Committee 2015d. Conservation Advice *Rhincodon typus* whale shark. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/66680-conservation-advice-01102015.pdf>.

Threatened Species Scientific Committee 2015e. Conservation Advice *Anous tenuirostris melanops* Australian lesser noddy. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/26000-conservation-advice-01102015.pdf>.

Threatened Species Scientific Committee 2015f. Conservation Advice *Pterodroma mollis* soft-plumaged petrel. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/1036-conservation-advice-01102015.pdf>.

Threatened Species Scientific Committee 2016. Conservation Advice *Charadrius mongolus* Lesser sand plover. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/879-conservation-advice-05052016.pdf>.

Threatened Species Scientific Committee 2018. Listing Advice *Sphyrna lewini* scalloped hammerhead. Canberra: Department of the Environment and Energy. Available from:

<http://www.environment.gov.au/biodiversity/threatened/species/pubs/85267-listing-advice-15032018.pdf>.

Threatened Species Scientific Committee 2020a. Conservation Advice *Neophoca cinerea* Australian Sea Lion. Canberra: Department of Agriculture, Water and the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/22-conservation-advice-23122020.pdf>.

Tourism Western Australia. 2024a. State Tourism Satellite Account 2022-23: Topline Results for WA. Prepared by Tourism WA. <https://www.tourism.wa.gov.au/Publications%20Library/Markets%20and%20research/2023/State%20Tourism%20State%20Satellite%20Account%202022-23.PDF>.

Tourism Western Australia. 2024b. Overview of Visitation to WA - YE Mar 24. Tourism Research Australia, International and National Visitor Surveys. <https://www.tourism.wa.gov.au/Publications%20Library/Markets%20and%20research/2024/IVS%20NVS/Overview%20of%20Visitation%20to%20WA%20-%20YE%20Mar%2024.PDF>.

Townsend, C.H. 1935. The distribution of certain whales as shown by logbook records of American whaleships. *Zoologica* 19: 3–50.

Thums M, Jenner C, Waples K, Salgado Kent C, Meekan M. 2018. Humpback whale use of the Kimberley; understanding and monitoring spatial distribution. Report of Project 1.2.1 prepared for the Kimberley Marine Research Program, Western Australian Marine Science Institution, Perth, Western Australia, 78pp.

Thums, M., Ferreira, L.C., Jenner, C., Jenner, M., Harris, D., Davenport, A., Andrews-Goff, V., Double, M., Möller, L., Attard, C.R. and Bilgmann, K. 2022. Pygmy blue whale movement, distribution and important areas in the Eastern Indian Ocean. *Global Ecology and Conservation*, 35, p.e02054.

Tucker, A. D., Pendoley, K. L., Murray, K., Loewenthal, G., Barber, C., Denda, J., Lincoln, G., Mathews, D., Oades, D., Whiting, S. D., Rangers, Miriuwung Gajerrong; Rangers, Balangarra; Rangers, Wunambal Gaambera; Rangers, Dambimangari; Rangers, Mayala; Rangers, Bardi Jawi; Rangers, Nyul Nyul; Rangers, Yawuru; Rangers, Karajarri; Rangers, Nyangumart. 2021. Regional Ranking of Marine Turtle Nesting in Remote Western Australia by Integrating Traditional Ecological Knowledge and Remote Sensing. *Remote Sens.*13, 4696. <https://doi.org/10.3390/rs13224696>.

Udyawer, V., Read, M., Hamann, M., Heupel, M.R., and Simpfendorfer, C.A. 2016. Importance of shallow tidal habitats as refugia from trawl fishing for sea snakes. *Journal of Herpetology* 50: 527–533. <https://doi.org/10.1670/15-026>.

Udyawer, V., Somaweera, R., Nitschke, C., d’Anastasi, B., Sanders, K., Webber, B.L., Hourston, M. and Heupel, M.R. 2020. Prioritising search effort to locate previously unknown populations of endangered marine reptiles. *Global Ecology and Conservation* 22. <https://doi.org/10.1016/j.gecco.2020.e01013>.

UNESCO 1991. Shark Bay, Western Australia Description. UNESCO, World heritage Convention. <https://whc.unesco.org/en/list/578/>. [Accessed 27 Sep 2023].

UNESCO 2011. Ningaloo Coast Description. UNESCO, World heritage Convention. <https://whc.unesco.org/en/list/1369/>. [Accessed 27 Sep 2023].

UWA 2021. Scarborough Pipeline Cultural Heritage Assessment: Establishing Archaeological Potential and Significance. Technical report by UWA for Woodside Energy Limited.

Vadrevu, K. P, Lasko, K., Giglio, L. and Justice, C. 2014. Analysis of Southeast Asia pollution episode during June 2013 using satellite remote sensing datasets. *Environmental Pollution* 195: 245–256.

Veth, P., McDonald, J., Ward, I., O’Leary, M., Beckett, E., Benjamin, J., Ulm, S., Hacker, J., Ross, P. and Bailey, G., 2019. A Strategy for Assessing Continuity in Terrestrial and Maritime Landscapes

from Murujuga (Dampier Archipelago), North West Shelf, Australia. The Journal of Island and Coastal Archaeology 15(4): 477-503. Doi: 10.1080/15564894.2019.1572677.

Vincent, A.C.J. 1996. The international trade in seahorses. TRAFFIC International, Cambridge, UK. Available from: http://www.trafficj.org/publication/96_International_Trade_Seahorse.pdf [Accessed 22 Sep 2020].

Voris, H.K. 1972. The role of sea snakes (Hydrophiidae) in the trophic structure of coastal ocean communities. Journal of the Marine Biological Association of India 14(2): 429–442.

Voris, H.K. and Voris, H.H. 1983. Feeding strategies in marine snakes: an analysis of evolutionary, morphological, behavioral and ecological relationships. American Zoology 23: 411–425. <https://doi.org/10.1093/icb/23.2.411>.

Wakefield, C., Trinnie, F., Skepper, C., Boddington, D., Newman, S. and Steele, A. 2023. North Coast Demersal Resource Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/2022: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp. 167–176.

Wakefield, C., Trinnie, F., Skepper, C., Boddington, D., and Grosse, T. 2023a. North Coast Demersal Resource Status Report 2023. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia pp. 173–183.

Ward, I., Larcombe, P., Ross, P. and Fandry, C. 2022. Applying geoarchaeological principles to marine archaeology: A reappraisal of the ‘first marine’ and ‘in situ’ lithic scatters in the Dampier Archipelago, NW Australia. Geoarchaeology (37), 783–810. <https://doi.org/10.1002/gea.21917>.

Warren, V.E., J.J.-Y. Delarue, C. Robinson, K.A. Kowarski, C.R. McPherson, C.C. Wilson, E.E. Maxner, C.B. Lawrence, B.J. Gaudet, and A. Muellenmeister. 2023. Marine Mammal Acoustic Monitoring Report: Characterisation of Pygmy Blue Whales and Other Acoustic Contributors. Document 02826, Version 2.0 FINAL, 81+pp. Technical report by JASCO Applied Sciences for Woodside Energy Limited.

Watson, M., Stamation, K. and Charlton C. 2021. Calving Rates, Long-Range Movements and Site Fidelity of Southern Right Whales (*Eubalaena australis*) in South-Eastern Australia. Journal of Cetacean Research Management 22(1) pp. 17–28.

WBM Oceanics and Claridge, G. 1997. Guidelines for managing visitation to seabird breeding islands, Great Barrier Reef Marine Park Authority, Townsville.

Weimerskirch, H., Le Corre, M., Jaquemet, S. and Marsac, F. 2005. Foraging strategy of a tropical seabird, the red-footed booby, in a dynamic marine environment. Mar Ecol Prog Ser Vol. 288: 251–261.

Weimerskirch, H., Le Corre, M. and Bost, C.A. 2008. Foraging strategy of masked boobies from the largest colony in the world: relationship to environmental conditions and fisheries. Mar Ecol Prog Ser 362:291–302. <https://doi.org/10.3354/meps07424>.

Weimerskirch, H., de Grissac, S., Ravache, A., Prudor, A., Corbeau, A., Congdon, B., McDuire, F., Bourgeois, K., Dromzée, S., Butscher, J., Menkes, C., Allain, V., Vidal, E., Jaeger, A. and Borsa, P. 2020. At-sea movements of wedge-tailed shearwaters during and outside the breeding season from four colonies in New Caledonia. Marine Ecology Progress Series. 633. 225–238. [10.3354/meps13171](https://doi.org/10.3354/meps13171).

Weller, D.R and Lee, C.V. 2017. Migratory shorebird conservation action plan. BirdLife Australia, unpublished report, September 2017.

Whiting, A.U., Thomson, A., Chaloupka, M. and Limpus, C.J. 2008. Seasonality, abundance and

breeding biology of one of the largest populations of nesting flatback turtles: Cape Domett. Western Australia. *Australian Journal of Zoology* 56: 297–303.

Whiting, S.D. 2000. The foraging ecology of juvenile green and hawksbill sea turtles in north-western Australia. PhD thesis, Northern Territory University, Darwin, NT.

Whitty, J.M., Phillips, N.M., Morgan, D.L., Chaplin, J.A., Thorburn, D.C. and Peverell, S.C. 2008. Habitat associations of Freshwater Sawfish (*Pristis microdon*) and Northern River Sharks (*Glyphis garricki*): including genetic analysis of freshwater sawfish across northern Australia. Report to Australian Government, Department of the Environment, Water, Heritage and the Arts. Murdoch University Centre for Fish and Fisheries Research. Perth, Western Australia. 75 pp.

Willinggin Aboriginal Corporation. 2022. Keeping Ngarinyin People and Willinggin Country Healthy 2023–2032. <https://www.willinggin.com.au/hcp>.

Wijeratne, S. Pattiaratchi, C. and Proctor, R. 2018. Estimates of surface and subsurface boundary current transport around Australia. *Journal of Geophysical Research: Oceans* 123: 3444–3466.

Williams, A., Ulm, S., Sapienza, T. Lewis, S. and Turney, C. 2018. Sea-level change and demography during the last glacial termination and early Holocene across the Australian continent. *Quaternary Science Reviews* (182), 144–154. Doi: <https://doi.org/10.1016/j.quascirev.2017.11.030>.

Williams, A., Althaus, F., Dunstan, P.K., Poore, G.C.B., Bax, N.J., Kloser, R.J. and McEnnulty, F.R. 2010. Scales of habitat heterogeneity and megabenthos biodiversity on an extensive Australian continental margin (100–1100 m depths). *Marine Ecology* 31: 222–236.

Williamson, P.C., Sumner, N.R. and Malseed, B.E. 2006. A 12-month survey of recreational fishing in the Pilbara region of Western Australia during 1999–2000, Fisheries Research Report No. 153, Department of Fisheries, Western Australia. 61 pp.

Wilkin, S., How, J., Oliver, R. and Brown, S. 2023a. Saucer Scallop Resource Status Report 2023. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/2023: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. pp.107–114.

Wilkin, S., How, J., Shanks, M. and Leaversuch, R. 2023b. North Coast Prawn Resource Status 2023. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/2023: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. P 161–167.

Wilkin, S., How, J., Shanks, M. and Leaversuch, R. 2023c. Exmouth Gulf Prawn Resource Status 2023. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/2023: The State of the Fisheries eds. Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. Department of Primary Industries and Regional Development, Western Australia. P 119–127.

Wilkin, S., How, J., Koefoed, I. and Brown, S. 2023d. Shark Bay Prawn Resource Status Report 2023. In: Newman, S.J., Santoro, K.G. and Gaughan, D.J. (eds). Status Reports of the Fisheries and Aquatic Resources of Western Australia 2022/23: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia pp.100–107.

Wilson, B.R. 2013. The biogeography of the Australian North West Shelf: Environmental Change and Life's Response. Western Australian Museum, Perth, Australia. 415 pp.

Wilson, S., Carleton, J. and Meekan, M. 2003. Spatial and temporal patterns in the distribution and abundance of macrozooplankton on the southern North West Shelf, Western Australia. *Estuarine, Coastal and Shelf Science* 56: 897–908.

Wilson, S.G., Polovina, J.J., Stewart, B.S. and Meekan, M.G. 2006. Movement of whale sharks (*Rhincodon typus*) tagged at Ningaloo Reef, Western Australia. *Mar Biol* 148: 1157–1166.

Wilson, S.G., Stewart, B.S., Polovina, J.J., Meekan, M.G., Stevens, J.D. and Galuardi, B. 2007. Accuracy and precision of archival tag data: a multiple-tagging study conducted on a whale shark

(*Rhincodon typus*) in the Indian Ocean. *Fisheries Oceanography*, 16(6), pp.547–554.

Wilson, S.K., Depczynski, M. and Fisher, R. 2010. Habitat associations of juvenile fish at Ningaloo Reef, Western Australia: the importance of coral and algae. *PLoS ONE* 5(12): e15185. <https://doi.org/10.1371/journal.pone.0015185>.

Wilson, P., Pattiaratchi, C., Whiting, S., Ferreira, L.C., Fossette, S., Pendoley, K. and Thums, M., 2023. Predicting core areas of flatback turtle hatchlings and potential exposure to threats. *Endangered Species Research*, 52, 129–147. <https://doi.org/10.3354/esr01269>.

Worley 2024. Seabird and Shorebird Existing Knowledge Review 2024. North West Marine Region. Unpublished report prepared for Woodside Energy Ltd. by Worley with Subject Matter Expert input from Dr Annie Knipe and Dr Lisa Nicholson.

Woodhams, J., Patterson, H., Larcombe, J., Bromhead, D., Curtotti, R. and Dylewski, M. 2021. Fishery status reports 2021, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0.

Woodside 2015. North Rankin Complex – Basic Design Data Specification Sheet – Metocean. Controlled reference number A1100ST9393191. Woodside Energy Limited, Perth, Western Australia.

Woodside 2019. Proposed Browse to NWS Project Draft EIS/ERD. EPA Assessment No. 2191, EPBC 2018/8319. December 2019. 1986 pp.

Woodside 2020. Scarborough Offshore Project Proposal, Revision 5 Submission, February 2020. Woodside Energy Ltd. 806 pp.

Woodside 2022. Vincent – basic design data specification sheet – metocean (No. V0000ST9650826). Woodside Energy Limited, Perth, Western Australia.

Woodside Energy Ltd. 2023. Scarborough, Dredging and Spoil Disposal Management Plan. SA0006AH0000002.

Wynen, L., Larson, H., Thorburn, D., Peverell, S., Morgan, D., Field, I. and Gibb, K. 2009. Mitochondrial DNA supports the identification of two endangered river sharks (*Glyphis glyphis* and *Glyphis garricki*) across northern Australia. *Marine and Freshwater Research* 60: 554–562.

APPENDIX A. PROTECTED MATTER SEARCH REPORTS FOR NWMR, SWMR AND NMR

The PMST tool conducts searches on a grid-based function. Accordingly, the PMST results can indicate features or species that do not actually intersect or have a presence in the area. To validate search results, comprehensive literature and scientific expertise is used. As such, only species considered relevant to the scope of this document have been described.



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 06-Jun-2024 [Summary](#)

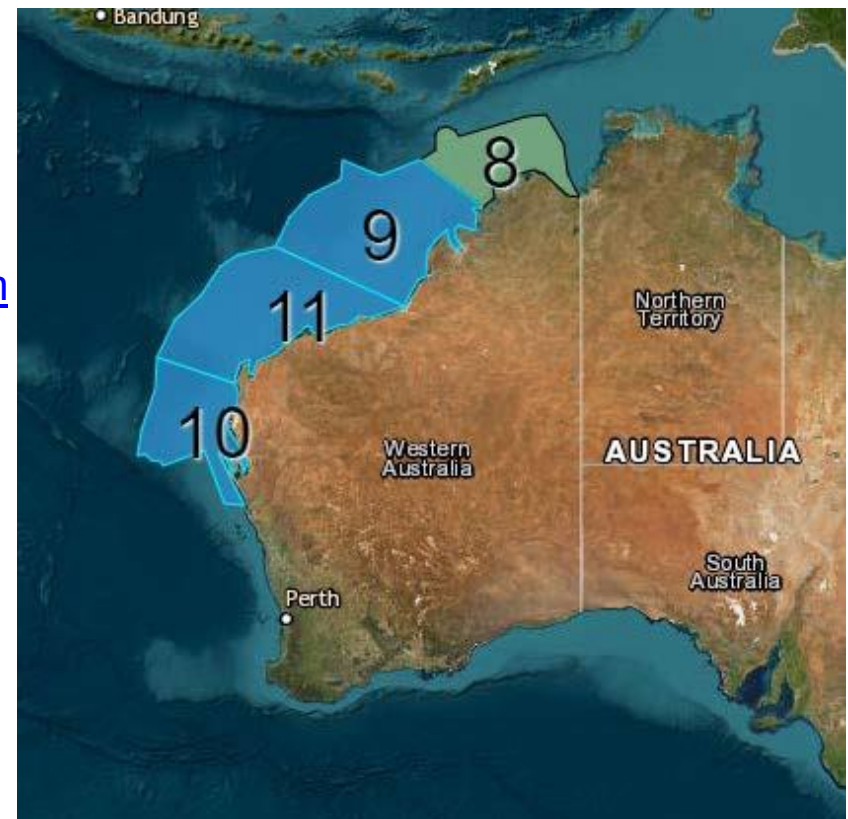
[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#) [Extra Information](#)

[Caveat](#) [Acknowledgements](#)

Figure 1: NWMR PMST subarea 1



Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	2
National Heritage Places:	5
Wetlands of International Importance (Ramsar)	2
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	9
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	105
Listed Migratory Species:	97

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	65
Commonwealth Heritage Places:	5
Listed Marine Species:	174
Whales and Other Cetaceans:	34
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	29
Habitat Critical to the Survival of Marine Turtles:	5

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	78
Regional Forest Agreements:	None
Nationally Important Wetlands:	8
EPBC Act Referrals:	317
Key Ecological Features (Marine):	13
Biologically Important Areas:	92
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties			[Resource Information]
Name	State	Legal Status	

[Shark Bay, Western Australia](#) WA Declared property

[The Ningaloo Coast](#) WA Declared property

National Heritage Places			[Resource Information]
Name	State	Legal Status	
Historic			
Dirk Hartog Landing Site 1616 - Cape Inscription Area	WA	Listed place	

Indigenous		
Dampier Archipelago (including Burrup Peninsula)	WA	Listed place

Natural		
Shark Bay, Western Australia	WA	Listed place
The Ningaloo Coast	WA	Listed place
The West Kimberley	WA	Listed place

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	

[Eighty-mile beach](#) Within Ramsar site

[Roebuck bay](#) Within 10km of Ramsar site

Commonwealth Marine Area	[Resource Information]
--------------------------	--------------------------

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name
Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act)

Feature Name

Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act)

Listed Threatened Ecological Communities	[Resource Information]
--	--------------------------

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula	Endangered	Community likely to occur within area

Listed Threatened Species	[Resource Information]
---------------------------	--------------------------

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act. Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Anous tenuirostris melanops		
Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Aphelocephala leucopsis		
Southern Whiteface [529]	Vulnerable	Species or species habitat known to occur within area
Arenaria interpres		
Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris canutus		
Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris		
Great Knot [862]	Vulnerable	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Charadrius leschenaultii](#)
 Greater Sand Plover, Large Sand Plover Vulnerable Species or species habitat known to occur within area [877]

[Charadrius mongolus](#)
 Lesser Sand Plover, Mongolian Plover Endangered Roosting known to occur within area [879]

[Diomedea amsterdamensis](#)
 Amsterdam Albatross [64405] Endangered Species or species habitat likely to occur within area

[Diomedea exulans](#)
 Wandering Albatross [89223] Vulnerable Species or species habitat may occur within area

[Erythrotriorchis radiatus](#)
 Red Goshawk [942] Endangered Species or species habitat may occur within area

[Erythrura gouldiae](#)
 Gouldian Finch [413] Endangered Species or species habitat known to occur within area

[Falco hypoleucos](#)
 Grey Falcon [929] Vulnerable Species or species habitat known to occur within area

[Falcunculus frontatus whitei](#)
 Crested Shrike-tit (northern), Northern Shrike-tit [26013] Vulnerable Species or species habitat likely to occur within area

[Geophaps smithii blaauwi](#)
 Partridge Pigeon (western) [66501] Vulnerable Species or species habitat likely to occur within area

[Leipoa ocellata](#)
 Malleefowl [934] Vulnerable Species or species habitat likely to occur within area

[Limnodromus semipalmatus](#)
 Asian Dowitcher [843] Vulnerable Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Endangered	Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Malurus leucopterus edouardi White-winged Fairy-wren (Barrow Island), Barrow Island Black-and-white Fairy-wren [26194]	Vulnerable	Species or species habitat likely to occur within area
Malurus leucopterus leucopterus White-winged Fairy-wren (Dirk Hartog Island), Dirk Hartog Black-and-White Fairy-wren [26004]	Vulnerable	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Breeding known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Polytelis alexandrae Princess Parrot, Alexandra's Parrot [758]	Vulnerable	Species or species habitat may occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area

Zanda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Species or species habitat likely to occur within area
--	------------	--

FISH

Milyeringa veritas Cape Range Cave Gudgeon, Blind Gudgeon [66676]	Vulnerable	Species or species habitat known to occur within area
--	------------	---

Ophisternon candidum Blind Cave Eel [66678]	Vulnerable	Species or species habitat known to occur within area
--	------------	---

Thunnus maccoyii Southern Bluefin Tuna [69402] Dependent	Conservation	Breeding known to occur within area
--	--------------	-------------------------------------

MAMMAL

Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
---	------------	--

Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
--	------------	--

Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
---	------------	--

Bettongia lesueur Barrow and Boodie Islands subspecies Boodie, Burrowing Bettong (Barrow and Boodie Islands) [88021]	Vulnerable	Species or species habitat known to occur within area
---	------------	---

Bettongia lesueur lesueur Burrowing Bettong (Shark Bay), Boodie [66659]	Vulnerable	Species or species habitat known to occur within area
--	------------	---

Bettongia penicillata ogilbyi Woylie [66844]	Endangered	Species or species habitat likely to occur within area
---	------------	--

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat may occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Isoodon auratus auratus Golden Bandicoot (mainland) [66665]	Vulnerable	Species or species habitat likely to occur within area
Isoodon auratus barrowensis Golden Bandicoot (Barrow Island) [66666]	Vulnerable	Species or species habitat known to occur within area
Lagorchestes conspicillatus conspicillatus Spectacled Hare-wallaby (Barrow Island) [66661]	Vulnerable	Species or species habitat known to occur within area
Lagorchestes hirsutus bernieri Rufous Hare-wallaby (Bernier Island) [66662]	Vulnerable	Species or species habitat known to occur within area
Lagorchestes hirsutus Central Australian subspecies Mala, Rufous Hare-Wallaby (Central Australia) [88019]	Endangered	Translocated population known to occur within area
Lagorchestes hirsutus dorreae Rufous Hare-wallaby (Dorre Island) [66663]	Vulnerable	Species or species habitat known to occur within area
Lagostrophus fasciatus fasciatus Banded Hare-wallaby, Merrnine, Marnine, Munning [66664]	Vulnerable	Species or species habitat known to occur within area
Leporillus conditor Wopilkara, Greater Stick-nest Rat [137]	Vulnerable	Translocated population known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Macroderma gigas](#)

Ghost Bat [174] Vulnerable Species or species habitat known to occur within area

[Macrotis lagotis](#)

Greater Bilby [282] Vulnerable Species or species habitat known to occur within area

[Neophoca cinerea](#)

Australian Sea-lion, Australian Sea Lion [22] Endangered Species or species habitat may occur within area

[Osphranter robustus isabellinus](#) Barrow

Island Wallaroo, Barrow Island Euro [89262] Vulnerable Species or species habitat likely to occur within area

[Perameles bougainville](#)

Shark Bay Bandicoot [278] Endangered Species or species habitat known to occur within area

[Petrogale concinna monastria](#)

Nabarlek (Kimberley) [87607] Endangered Species or species habitat known to occur within area

[Petrogale lateralis lateralis](#)

Black-flanked Rock-wallaby, Moororong, Black-footed Rock Wallaby [66647] Endangered Species or species habitat known to occur within area

[Phascogale tapoatafa kimberleyensis](#)

Kimberley brush-tailed phascogale, Brush-tailed Phascogale (Kimberley) [88453] Vulnerable Species or species habitat likely to occur within area

[Pseudomys fieldi](#)

Shark Bay Mouse, Djoongari, Alice Springs Mouse [113] Vulnerable Species or species habitat likely to occur within area

[Rhinonicteris aurantia \(Pilbara form\)](#)

Pilbara Leaf-nosed Bat [82790] Vulnerable Species or species habitat known to occur within area

[Saccolaimus saccolaimus nudicluniatus](#)

Bare-rumped Sheath-tailed Bat, Bare-rumped Sheathtail Bat [66889] Vulnerable Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Trichosurus vulpecula arnhemensis](#)

Northern Brushtail Possum [83091] Vulnerable Species or species habitat likely to occur within area

[Xeromys myoides](#)

Water Mouse, False Water Rat, Yirrkoo [66] Vulnerable Species or species habitat may occur within area

PLANT

[Caladenia barbarella](#)

Small Dragon Orchid, Common Dragon Orchid [68686] Endangered Species or species habitat may occur within area

[Caladenia hoffmanii](#)

Hoffman's Spider-orchid [56719] Endangered Species or species habitat likely to occur within area

[Eucalyptus beardiana](#)

Beard's Mallee [18933] Vulnerable Species or species habitat likely to occur within area

[Minuria tridens](#)

Minnie Daisy [13753] Vulnerable Species or species habitat known to occur within area

REPTILE

[Aipysurus apraefrontalis](#)

Short-nosed Sea Snake, Short-nosed Seasnake [1115] Critically Endangered Species or species habitat known to occur within area

[Aipysurus foliosquama](#)

Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118] Critically Endangered Species or species habitat known to occur within area

[Caretta caretta](#)

Loggerhead Turtle [1763]Endangered Breeding known to occur within area

[Chelonia mydas](#)

Green Turtle [1765] Vulnerable Breeding known to occur within area

[Ctenotus zastictus](#)

Hamelin Ctenotus [25570] Vulnerable Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Dermochelys coriacea](#)

Leatherback Turtle, Leathery Turtle, Luth [1768]

Endangered

Foraging, feeding or related behaviour known to occur within area

[Egernia stokesii badia](#)

Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]

Endangered

Species or species habitat known to occur within area

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766]

Vulnerable

Breeding known to occur within area

[Lepidochelys olivacea](#)

Olive Ridley Turtle, Pacific Ridley Turtle [1767]

Endangered

Congregation or aggregation known to occur within area

[Lerista nevinae](#)

Nevin's Slider [85296]

Endangered

Species or species habitat known to occur within area

[Liasis olivaceus barroni](#)

Pilbara Olive Python [66699]

Vulnerable

Species or species habitat known to occur within area

[Natator depressus](#)

Flatback Turtle [59257]

Vulnerable

Breeding known to occur within area

[Tiliqua scincoides intermedia](#)

Northern Blue-tongued Skink [89838]

Critically Endangered

Species or species habitat known to occur within area

[Varanus mertensi](#)

Mertens' Water Monitor, Mertens's Water Monitor [1568]

Endangered

Species or species habitat known to occur within area

[Varanus mitchelli](#)

Mitchell's Water Monitor [1569]

Critically Endangered

Species or species habitat likely to occur within area

SHARK

[Carcharias taurus \(west coast population\)](#)

Grey Nurse Shark (west coast population) [68752]

Vulnerable

Congregation or aggregation known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

Carcharodon carcharias		
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Centrophorus uyato		
Little Gulper Shark [68446]	Conservation Dependent	Species or species habitat likely to occur within area

Glyphis garricki		
Northern River Shark, New Guinea River Shark [82454]	Endangered	Breeding likely to occur within area

Pristis clavata		
Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Breeding known to occur within area

Pristis pristis		
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area

Pristis zijsron		
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding known to occur within area

Rhincodon typus		
Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Sphyrna lewini		
Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat known to occur within area

SPIDER

Idiosoma nigrum		
Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat known to occur within area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

Migratory Marine Birds	Anous stolidus	
Common Noddy [825]		Species or species habitat likely to occur within area

Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area
Ardenna pacifica Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Hydroprogne caspia Caspian Tern [808]		Breeding known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Onychoprion anaethetus Bridled Tern [82845]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area
Sternula albifrons Little Tern [82849]		Breeding known to occur within area
Sula dactylatra Masked Booby [1021]		Breeding known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Dugong dugon Dugong [28]		Breeding known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Congregation or aggregation known to occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Breeding known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sousa sahalensis as Sousa chinensis Australian Humpback Dolphin [87942]		Breeding known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Migratory Terrestrial Species		
Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Motacilla cinerea Grey Wagtail [642]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris pugnax as Philomachus pugnax Ruff [91256]		Roosting known to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Calidris subminuta Long-toed Stint [861]		Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Roosting known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Numenius minutus Little Curlew, Little Whimbrel [848]	Vulnerable	Roosting known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Thalasseus bergii Greater Crested Tern [83000]	Endangered	Breeding known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Tringa totanus Common Redshank, Redshank [835]	Vulnerable	Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area

Commonwealth Lands

[Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State
Defence	
Defence - EXMOUTH VLF TRANSMITTER STATION [50122]	WA
Defence - EXMOUTH VLF TRANSMITTER STATION [50123]	WA
Defence - LEARMONTH - RAAF BASE [50106]	WA
Defence - LEARMONTH - RAAF BASE [50109]	WA
Defence - LEARMONTH - RAAF BASE [50108]	WA
Defence - LEARMONTH - RAAF BASE [50101]	WA
Defence - LEARMONTH - RAAF BASE [50107]	WA
Defence - LEARMONTH - RAAF BASE [50097]	WA
Defence - LEARMONTH - RAAF BASE [50103]	WA
Defence - LEARMONTH - RAAF BASE [50100]	WA
Defence - LEARMONTH RADAR SITE - VLAMING HEAD EXMOUTH	WA [50001]
Defence - YAMPI SOUND TRAINING AREA [50145]	WA
Unknown	Commonwealth Land - [51698]
	WA
Commonwealth Land - [51699]	WA
Commonwealth Land - [51707]	WA
Commonwealth Land - [51704]	WA
Commonwealth Land - [51696]	WA
Commonwealth Land - [51705]	WA
Commonwealth Land - [51709]	WA
Commonwealth Land - [51700]	WA
Commonwealth Land - [51706]	WA

Commonwealth Land Name		State
Commonwealth Land - [52116]	WA	
Commonwealth Land - [51695]	WA	
Commonwealth Land - [51671]	WA	
Commonwealth Land - [52104]	WA	
Commonwealth Land - [51672]	WA	
Commonwealth Land - [51670]	WA	
Commonwealth Land - [51055]	WA	
Commonwealth Land - [51054]	WA	
Commonwealth Land - [51702]	WA	
Commonwealth Land - [51053]	WA	
Commonwealth Land - [51708]	WA	
Commonwealth Land - [51703]	WA	
Commonwealth Land - [52198]	WA	
Commonwealth Land - [51716]	WA	
Commonwealth Land - [52236]	WA	
Commonwealth Land - [52099]	WA	
Commonwealth Land - [52097]	WA	
Commonwealth Land - [51719]	WA	
Commonwealth Land - [52100]	WA	
Commonwealth Land - [52195]	WA	
Commonwealth Land - [52109]	WA	
Commonwealth Land - [52098]	WA	
Commonwealth Land - [51710]	WA	
Commonwealth Land - [51714]	WA	
Commonwealth Land - [51715]	WA	
Commonwealth Land - [52106]	WA	
Commonwealth Land - [52107]	WA	

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Acrocephalus orientalis](#)

Oriental Reed-Warbler [59570] Species or species habitat may occur within area overfly marine area

[Actitis hypoleucos](#)

Common Sandpiper [59309] Species or species habitat known to occur within area

[Anous stolidus](#)

Common Noddy [825] Species or species habitat likely to occur within area

[Anous tenuirostris melanops](#)

Australian Lesser Noddy [26000] Vulnerable Breeding known to occur within area

[Anseranas semipalmata](#)

Magpie Goose [978]Species or species habitat may occur within area overfly marine area

[Apus pacificus](#)

Fork-tailed Swift [678] Species or species habitat likely to occur within area overfly marine area

[Ardenna carneipes as Puffinus carneipes](#)

Flesh-footed Shearwater, Fleshy-footed Shearwater [82404] Foraging, feeding or related behaviour likely to occur within area

[Ardenna pacifica as Puffinus pacificus](#)

Wedge-tailed Shearwater [84292] Breeding known to occur within area

[Arenaria interpres](#)

Ruddy Turnstone [872] Vulnerable Roosting known to occur within area

[Bubulcus ibis as Ardea ibis](#)

Cattle Egret [66521]Species or species habitat may occur within area overfly marine area

[Calidris acuminata](#)

Sharp-tailed Sandpiper [874] Vulnerable Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area
Calidris pugnax as Philomachus pugnax Ruff [91256]		Roosting known to occur within area overfly marine area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area overfly marine area
Calidris subminuta Long-toed Stint [861]		Species or species habitat known to occur within area overfly marine area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Cecropis daurica as Hirundo daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Chalcites osculans as Chrysococcyx osculans		
Black-eared Cuckoo [83425]	Species or species habitat known to occur within area	overfly marine area
Charadrius leschenaultii		
Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus		
Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius ruficapillus		
Red-capped Plover [881]		Roosting known to occur within area overfly marine area
Charadrius veredus		
Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area overfly marine area
Chroicocephalus novaehollandiae as Larus novaehollandiae		
Silver Gull [82326]		Breeding known to occur within area
Diomedea amsterdamensis		
Amsterdam Albatross [64405]	Endangered	Species or species habitat likely to occur within area
Diomedea exulans		
Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area
Fregata ariel		
Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor		
Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Gallinago megala		
Swinhoe's Snipe [864]		Roosting likely to occur within area overfly marine area
Gallinago stenura		
Pin-tailed Snipe [841]		Roosting likely to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Glareola maldivarum Oriental Pratincole [840]		Roosting known to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area overfly marine area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Breeding known to occur within area
Larus pacificus Pacific Gull [811]		Breeding known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area overfly marine area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area overfly marine area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Macronectes halli](#)

Northern Giant Petrel [1061] Vulnerable Species or species habitat may occur within area

[Merops ornatus](#)

Rainbow Bee-eater [670] Species or species habitat may occur within area overfly marine area

[Motacilla cinerea](#)

Grey Wagtail [642] Species or species habitat known to occur within area overfly marine area

[Motacilla flava](#)

Yellow Wagtail [644] Species or species habitat known to occur within area overfly marine area

[Numenius madagascariensis](#) Eastern

Curlew, Far Eastern Curlew [847] Critically Endangered Species or species habitat known to occur within area

[Numenius minutus](#)

Little Curlew, Little Whimbrel [848] Roosting known to occur within area overfly marine area

[Numenius phaeopus](#)

Whimbrel [849]Roosting known to occur within area

[Onychoprion anaethetus as Sterna anaethetus](#)

Bridled Tern [82845] Breeding known to occur within area

[Onychoprion fuscatus as Sterna fuscata](#)

Sooty Tern [90682] Breeding known to occur within area

[Pandion haliaetus](#)

Osprey [952] Breeding known to occur within area

[Papasula abbotti](#)

Abbott's Booby [59297] Endangered Species or species habitat may occur within area

[Phaethon lepturus](#)

White-tailed Tropicbird [1014] Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Phaethon lepturus fulvus](#)

Christmas Island White-tailed Tropicbird, Endangered Species or species habitat may occur within area
Golden Bosunbird [26021]

[Phaethon rubricauda](#)

Red-tailed Tropicbird [994] Breeding known to occur within area

[Pluvialis fulva](#)

Pacific Golden Plover [25545] Roosting known to occur within area

[Pluvialis squatarola](#)

Grey Plover [865] Vulnerable Roosting known to occur within area overfly marine area

[Pterodroma macroptera](#)

Great-winged Petrel [1035] Foraging, feeding or related behaviour known to occur within area

[Pterodroma mollis](#)

Soft-plumaged Petrel [1036] Vulnerable Foraging, feeding or related behaviour likely to occur within area

[Puffinus assimilis](#)

Little Shearwater [59363] Foraging, feeding or related behaviour known to occur within area

[Recurvirostra novaehollandiae](#)

Red-necked Avocet [871]Roosting known to occur within area overfly marine area

[Rostratula australis as Rostratula benghalensis \(sensu lato\)](#)

Australian Painted Snipe [77037] Endangered Species or species habitat likely to occur within area overfly marine area

[Stercorarius antarcticus as Catharacta skua](#)

Brown Skua [85039]Species or species habitat may occur within area

[Sterna dougallii](#)

Roseate Tern [817] Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Sternula albifrons as Sterna albifrons Little Tern [82849]		Breeding known to occur within area
Sternula nereis as Sterna nereis Fairy Tern [82949]	Breeding known to occur within area	
Stiltia isabella Australian Pratincole [818]	Roosting known to occur within area	overfly marine area
Sula dactylatra Masked Booby [1021]	Breeding known to occur within area	
Sula leucogaster Brown Booby [1022]	Breeding known to occur within area	
Sula sula Red-footed Booby [1023]	Breeding known to occur within area	
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area
Thalasseus bengalensis as Sterna bengalensis Lesser Crested Tern [66546]	Breeding known to occur within area	
Thalasseus bergii as Sterna bergii Greater Crested Tern [83000]	Breeding known to occur within area	

Scientific Name	Threatened Category	Presence Text
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]	Species or species habitat known to occur within area	overfly marine area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area overfly marine area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area overfly marine area
Fish Acentronura australe Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
Acentronura larsonae Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
Bhanotia fasciolata Corrugated Pipefish, Barbed Pipefish [66188]		Species or species habitat may occur within area
Bulbonaricus brauni Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area
Campichthys galei Gale's Pipefish [66191]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys latispinosus Muiron Island Pipefish [66196]	Species or species habitat may occur within area	
Choeroichthys suillus Pig-snouted Pipefish [66198]	Species or species habitat may occur within area	
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
Corythoichthys schultzi Schultz's Pipefish [66205]	Species or species habitat may occur within area	
Cosmocampus banneri Roughridge Pipefish [66206]	Species or species habitat may occur within area	
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Doryrhamphus multiannulatus Many-banded Pipefish [66717]	Species or species habitat may occur within area	
Doryrhamphus negrosensis Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area
Festucalex scalaris Ladder Pipefish [66216]	Species or species habitat may occur within area	
Filicampus tigris Tiger Pipefish [66217]	Species or species habitat may occur within area	
Halicampus brocki Brock's Pipefish [66219]	Species or species habitat may occur within area	
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]	Species or species habitat may occur within area	
Halicampus nitidus Glittering Pipefish [66224]	Species or species habitat may occur within area	
Halicampus spinirostris Spiny-snout Pipefish [66225]	Species or species habitat may occur within area	
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]	Species or species habitat may occur within area	
Hippocampus spinosissimus Hedgehog Seahorse [66239]	Species or species habitat may occur within area	
Hippocampus subelongatus West Australian Seahorse [66722]	Species or species habitat may occur within area	
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area
Lissocampus fatiloquus Prophet's Pipefish [66250]	Species or species habitat may occur within area	
Maroubra perserrata Sawtooth Pipefish [66252]	Species or species habitat may occur within area	

Scientific Name	Threatened Category	Presence Text
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Mitotichthys meraculus Western Crested Pipefish [66259]	Species or species habitat may occur within area	
Nannocampus subosseus Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area
Phoxocampus belcheri Black Rock Pipefish [66719]	Species or species habitat may occur within area	
Phycodurus eques Leafy Seadragon [66267]	Species or species habitat may occur within area	
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Pugnaso curtirostris Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
---	--	--

Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
---	--	--

Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
--	--	--

Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
---	--	--

Urocampus carinirostris Hairy Pipefish [66282]	Species or species habitat may occur within area
---	--

Vanacampus margaritifer Mother-of-pearl Pipefish [66283]	Species or species habitat may occur within area
---	--

Mammal Dugong dugon Dugong [28]	Breeding known to occur within area
---	-------------------------------------

Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat may occur within area
---	------------	--

Reptile Aipysurus apraefrontalis Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered within area	Species or species habitat known to occur within area
---	-----------------------------------	---

Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
---	--	--

Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered within area	Species or species habitat known to occur within area
---	-----------------------------------	---

Scientific Name	Threatened Category	Presence Text
Aipysurus fuscus Dusky Sea Snake [1119]		Species or species habitat known to occur within area
Aipysurus laevis Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
Aipysurus mosaicus as Aipysurus eydouxii Mosaic Sea Snake [87261]	Species or species habitat may occur within area	
Aipysurus pooleorum Shark Bay Sea Snake [66061]	Species or species habitat may occur within area	
Aipysurus tenuis Brown-lined Sea Snake, Mjoberg's Sea Snake [1121]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Emydocephalus annulatus Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Ephalophis greyae as Ephalophis greyi Mangrove Sea Snake [93738]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis coggeri Cogger's Sea Snake [25925]		Species or species habitat may occur within area
Hydrophis czeblukovi Fine-spined Sea Snake [59233]		Species or species habitat may occur within area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		Species or species habitat may occur within area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area
Hydrophis macdowelli as Hydrophis mcdowelli MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Hydrophis zweiffei as Enhydrina schistosa Australian Beaked Sea Snake [93514]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Congregation or aggregation known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Globicephala melas Long-finned Pilot Whale [59282]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Indopacetus pacificus Longman's Beaked Whale [72]		Species or species habitat may occur within area
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Lagenodelphis hosei Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Breeding known to occur within area	
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Mesoplodon ginkgodens Ginkgo-toothed Beaked Whale, Ginkgo-toothed Whale, Ginkgo Beaked Whale [59564]		Species or species habitat may occur within area
Mesoplodon grayi Gray's Beaked Whale, Scamperdown Whale [75]		Species or species habitat may occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Breeding known to occur within area	
Orcinus orca Killer Whale, Orca [46]	Species or species habitat may occur within area	
Peponocephala electra Melon-headed Whale [47]	Species or species habitat may occur within area	
Physeter macrocephalus Sperm Whale [59]	Species or species habitat may occur within area	
Pseudorca crassidens False Killer Whale [48]	Species or species habitat likely to occur within area	
Sousa sahulensis Australian Humpback Dolphin [87942]	Breeding known to occur within area	
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]	Species or species habitat may occur within area	
Steno bredanensis Rough-toothed Dolphin [30]	Species or species habitat may occur within area	
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]	Species or species habitat may occur within area	
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Australian Marine Parks	[Resource Information]
Park Name	Zone & IUCN Categories
Abrolhos	Habitat Protection Zone (IUCN IV)
Carnarvon Canyon	Habitat Protection Zone (IUCN IV)
Dampier	Habitat Protection Zone (IUCN IV)
Gascoyne	Habitat Protection Zone (IUCN IV)
Gascoyne	Habitat Protection Zone (IUCN IV)
Kimberley	Habitat Protection Zone (IUCN IV)

Park Name	Zone & IUCN Categories	
Kimberley IV)	Habitat Protection Zone (IUCN	
Abrolhos	Multiple Use Zone (IUCN VI)	
Abrolhos	Multiple Use Zone (IUCN VI)	
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)	
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)	
Dampier	Multiple Use Zone (IUCN VI)	
Eighty Mile Beach	Multiple Use Zone (IUCN VI)	
Gascoyne	Multiple Use Zone (IUCN VI)	
Kimberley	Multiple Use Zone (IUCN VI)	
Montebello	Multiple Use Zone (IUCN VI)	
Roebuck	Multiple Use Zone (IUCN VI)	
Shark Bay	Multiple Use Zone (IUCN VI)	
Abrolhos	National Park Zone (IUCN II)	
Argo-Rowley Terrace	National Park Zone (IUCN II)	
Dampier	National Park Zone (IUCN II)	
Gascoyne	National Park Zone (IUCN II)	
Kimberley	National Park Zone (IUCN II)	
Mermaid Reef	National Park Zone (IUCN II)	
Ningaloo	National Park Zone (IUCN II)	
Ningaloo	Recreational Use Zone (IUCN IV)	
Ningaloo	Recreational Use Zone (IUCN IV)	
Abrolhos	Special Purpose Zone (IUCN VI)	
Argo-Rowley Terrace	Special Purpose Zone (Trawl) (IUCN VI)	

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
Aug - Sep		

Scientific Name	Behaviour	Presence
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
Dec - Jan		
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur
May - Jul		
Lepidochelys olivacea Olive Ridley Turtle [1767]	Nesting	Known to occur
Nov-Feb		
Caretta caretta Loggerhead Turtle [1763]	Nesting	Known to occur
Nov - May		
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Known to occur

Extra Information

State and Territory Reserves		[Resource Information]
Protected Area Name	Reserve Type	State
Adele Island	Nature Reserve	WA
Airlie Island	Nature Reserve	WA
Bardi Jawi	Indigenous Protected Area	WA
Barrow Island	Nature Reserve	WA
Barrow Island	Marine Management Area	WA
Barrow Island	Marine Park	WA
Bedout Island	Nature Reserve	WA
Bernier And Dorre Islands	Nature Reserve	WA
Bessieres Island	Nature Reserve	WA
Boodie, Double Middle Islands	Nature Reserve	WA
Bundegi Coastal Park	5(1)(h) Reserve	WA
Cape Range (South)	National Park	WA

Protected Area Name	Reserve Type	State
Coulomb Point	Nature Reserve	WA
Dambimangari	Indigenous Protected Area	WA
Dirk Hartog Island	National Park	WA
Eighty Mile Beach	Marine Park	WA
Faure Island	Private Nature Reserve	WA
Francois Peron	National Park	WA
Freycinet, Double Islands etc	Nature Reserve	WA
Gnandaroo Island	Nature Reserve	WA
Great Sandy Island	Nature Reserve	WA
Hamelin Pool	Marine Nature Reserve	WA
Jarrkunpungu	Nature Reserve	WA
Jurabi Coastal Park	5(1)(h) Reserve	WA
Karajarri	Indigenous Protected Area	WA
Koks Island	Nature Reserve	WA
Lacepede Islands	Nature Reserve	WA
Lalang-garram / Camden Sound	Marine Park	WA
Lalang-garram / Horizontal Falls	Marine Park	WA
Little Rocky Island	Nature Reserve	WA
Locker Island	Nature Reserve	WA
Lowendal Islands	Nature Reserve	WA
Miaboolya Beach	Fish Habitat Protection Area	WA
Montebello Islands	Conservation Park	WA
Montebello Islands	Marine Park	WA
Montebello Islands	Conservation Park	WA
Muiron Islands	Nature Reserve	WA

Protected Area Name	Reserve Type	State
Muiron Islands	Marine Management Area	WA
Nanga Station	NRS Addition - Gazettal in Progress	WA
Ningaloo	Marine Park	WA
North Kimberley	Marine Park	WA
North Lalang-garram	Marine Park	WA
North Sandy Island	Nature Reserve	WA
North Turtle Island	Nature Reserve	WA
Nyangumarta Warrarn	Indigenous Protected Area	WA
Nyingguulu (Ningaloo) Coastal Reserve	5(1)(h) Reserve	WA
Rocky Island	Nature Reserve	WA
Round Island	Nature Reserve	WA
Rowley Shoals	Marine Park	WA
Scott Reef	Nature Reserve	WA
Sedimentary Deposits Reserve	5(1)(g) Reserve	WA
Serrurier Island	Nature Reserve	WA
Shark Bay	Marine Park	WA
Swan Island	Nature Reserve	WA
Tanner Island	Nature Reserve	WA
Tent Island	Nature Reserve	WA
Thevenard Island	Nature Reserve	WA
Unnamed WA28968	5(1)(h) Reserve	WA
Unnamed WA36909	5(1)(h) Reserve	WA
Unnamed WA36913	Nature Reserve	WA
Unnamed WA36915	Nature Reserve	WA
Unnamed WA37168	5(1)(h) Reserve	WA

Protected Area Name	Reserve Type	State
Unnamed WA373385(1)(h) Reserve	WA	
Unnamed WA373835(1)(h) Reserve	WA	
Unnamed WA403225(1)(h) Reserve	WA	
Unnamed WA408285(1)(h) Reserve	WA	
Unnamed WA408775(1)(h) Reserve	WA	
Unnamed WA410805(1)(h) Reserve	WA	
Unnamed WA446655(1)(h) Reserve	WA	
Unnamed WA446675(1)(h) Reserve	WA	
Unnamed WA446695(1)(h) Reserve	WA	
Unnamed WA446725(1)(h) Reserve	WA	
Unnamed WA446735(1)(h) Reserve	WA	
Victor Island	Nature Reserve	WA
Whalebone Island	Nature Reserve	WA
Yawuru	Indigenous Protected	WA Area
Yawuru Nagulagun / Roebuck Bay	Marine Park	WA Y Island
	Nature Reserve	WA

Nationally Important Wetlands	[Resource Information]
Wetland Name	State
Cape Range Subterranean Waterways	WA
Eighty Mile Beach System	WA
Exmouth Gulf East	WA
Hamelin Pool	WA
Leslie (Port Hedland) Saltfields System	WA
Mermaid Reef	EXT
Shark Bay East	WA
Yampi Sound Training Area	WA

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Browse to North West Shelf Development, Indian Ocean, WA	2018/8319		Approval
Cockatoo Island Multi-User Supply Base, WA	2017/7986		Assessment
Gorgon Gas Development	2003/1294		Post-Approval
Koolan Island Operations	2022/09392		Assessment
Marine Route Survey for Subsea Fibre Optic Data Cable System - Australia West	2024/09826		Referral Decision
Midwest Offshore Wind Farm	2022/09264		Assessment
Ningaloo Lighthouse Development, 17km north west Exmouth, Western Australia	2020/8693		Post-Approval
North West Shelf Project Extension, Carnarvon Basin, WA	2018/8335		Approval
Ocean Barramundi Expansion Project	2022/09272		Assessment
Optimised Mardie Solar Salt Project	2022/9169		Approval
Project Highclere Cable Lay and Operation	2022/09203		Completed
Ridley Magnetite Project	2023/09477		Referral Decision
Action clearly unacceptable			
Asian Renewable Energy Hub Revised Proposal, WA	2021/8891	Action Clearly Unacceptable	Completed
Highlands 3D Marine Seismic Survey	2012/6680	Action Clearly Unacceptable	Completed
Controlled action			
'Van Gogh' Petroleum Field Development	2007/3213	Controlled Action	Post-Approval
2-D seismic survey Scott Reef	2000/125	Controlled Action	Post-Approval
Anketell Point Iron Ore Processing & Export Port	2009/5120	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Balmoral South Iron Ore Mine	2008/4236	Controlled Action	Post-Approval
Binowee Iron Ore Project	2001/366	Controlled Action	Proposed Decision
Browse FLNG Development, Commonwealth Waters	2013/7079	Controlled Action	Post-Approval
Cape Lambert Port B Development	2008/4032	Controlled Action	Post-Approval
Conduct an exploration drilling campaign	2010/5718	Controlled Action	Completed
Construct and operate LNG & domestic gas plant including onshore and offshore facilities - Wheatston	2008/4469	Controlled Action	Post-Approval
Construction and operation of a Solar Salt Project, SW Onslow, WA	2016/7793 Approach	Controlled Action	Assessment
Develop Ichthys gas-condensate field permit area W	2006/2767	Controlled Action	Completed
Develop Jansz-Io deepwater gas field in Permit Areas WA-18-R, WA-25-R and WA-26-	2005/2184	Controlled Action	Post-Approval
Development of Angel gas and condensate field, North West Shelf	2004/1805	Controlled Action	Post-Approval
Development of an iron ore mine and associated infrastructure	2010/5630 Approach	Controlled Action	Assessment
Development of Browse Basin Gas Fields (Upstream)	2008/4111	Controlled Action	Completed
Development of Coniston/Novara fields within the Exmouth Sub-basin	2011/5995	Controlled Action	Post-Approval
Development of Stybarrow petroleum field incl drilling and facility installation	2004/1469	Controlled Action	Post-Approval
Echo-Yodel Production Wells	2000/11	Controlled Action	Post-Approval
Enfield full field development	2001/257	Controlled Action	Post-Approval
Equus Gas Fields Development Project, Carnarvon Basin	2012/6301	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Eramurra Industrial Salt Project Approach	2021/9027	Controlled Action	Assessment
Eramurra Industrial Salt Project, near Karratha, WA	2019/8448	Controlled Action	Completed
Gorgon Gas Development 4th Train Proposal	2011/5942	Controlled Action	Post-Approval
Gorgon Gas Revised Development	2008/4178	Controlled Action	Post-Approval
Greater Enfield (Vincent) Development	2005/2110	Controlled Action	Post-Approval
Greater Gorgon Development - Optical Fibre Cable, Mainland to Barrow Island	2005/2141	Controlled Action	Completed
Ichthys Gas Field, Offshore and onshore processing facilities and subsea pipeline	2008/4208	Controlled Action	Post-Approval
Iron ore mine	2006/2522	Controlled Action	Post-Approval
Light Crude Oil Production	2001/365	Controlled Action	Post-Approval
Mardie Project, 80 km south west of Karratha, WA	2018/8236	Controlled Action	Post-Approval
Mauds Landing Marina	2000/98	Controlled Action	Completed
Nava-1 Cable System	2001/510	Controlled Action	Completed
Pluto Gas Project	2005/2258	Controlled Action	Completed
Pluto Gas Project Including Site B	2006/2968	Controlled Action	Post-Approval
Pluton Irvine Island Iron Ore Project	2011/6064	Controlled Action	Proposed Decision
Port Hedland Outer Harbour Development and associated marine and terrestrial in	2008/4159	Controlled Action	Post-Approval
Port Hedland Spoilbank Marina, WA	2019/8520	Controlled Action	Post-Approval
Proposed West Pilbara Iron Ore Project	2009/4706	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Pyrenees Oil Fields Development	2005/2034	Controlled Action	Post-Approval
Shark Bay Resources Dredging	2020/8717	Controlled Action	Post-Approval
Shark Bay Salt Facilities upgrade for direct ocean disposal of bitterns discharge	2011/5984	Controlled Action	Completed
Simpson Development	2000/59	Controlled Action	Completed
Simpson Oil Field Development	2001/227	Controlled Action	Post-Approval
The Scarborough Project - FLNG & assoc subsea infrastructure, Carnarvon Basin	2013/6811	Controlled Action	Post-Approval
Torosa South Initial Appraisal Drilling	2007/3500	Controlled Action	Completed
Vincent Appraisal Well	2000/22	Controlled Action	Post-Approval
Yannarie Solar Salt Project	2004/1679	Controlled Action	Completed
Yardie Creek Road Realignment Project	2021/8967 Approach	Controlled Action	Assessment
Not controlled action			
'Goodwyn A' Low Pressure Train Project	2003/914	Not Controlled Action	Completed
'Van Gogh' Oil Appraisal Drilling Program, Exploration Permit Area WA-155-P(1)	2006/3148 Action	Not Controlled	Completed
3D marine seismic survey in WA 314P and WA 315P	2004/1927 Action	Not Controlled	Completed
Adele Trend TQ3D Seismic Survey Action	2001/252	Not Controlled	Completed
Airlie Island soil and groundwater investigations, Exmouth Gulf, offshore Pilbara coast	2014/7250 Action	Not Controlled	Completed
APX-West Fibre-optic telecommunications cable system, WA to Singapore	2013/7102 Action	Not Controlled	Completed
Aquaculture - Barramundi grow out, Yampi Sound	2005/2476 Action	Not Controlled	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
archaeological surveys & excavation at historic sites, Cape Inscription	2006/3027 Action	Not Controlled	Completed
Baniyas-1 Exploration Well, EP-424, near Onslow	2007/3282 Action	Not Controlled	Completed
Barrow Island 2D Seismic survey Action	2006/2667	Not Controlled	Completed
Bollinger 2D Seismic Survey 200km North of North West Cape WA	2004/1868 Action	Not Controlled	Completed
Bultaco-2, Laverda-2, Laverda-3 and Montesa-2 Appraisal Wells	2000/103 Action	Not Controlled	Completed
Cape Lambert Port A Marine Structures Refurbishment Project	2018/8370 Action	Not Controlled	Completed
Carnarvon 3D Marine Seismic Survey Controlled Action	2004/1890	Not	Completed
Cazadores 2D seismic survey Action	2004/1720	Not Controlled	Completed
Construction and operation of an unmanned sea platform and connecting pipeline to Varanus Island for	2004/1703 Action	Not Controlled	Completed
Construction of a Commodities Berth, Wharf and Associated Infrastructure	2008/4129 Action	Not Controlled	Completed
Controlled Source Electromagnetic Survey	2007/3262 Action	Not Controlled	Completed
Development of Halyard Field off the west coast of WA	2010/5611 Action	Not Controlled	Completed
Development of iron ore facilities Action	2013/7013	Not Controlled	Completed
Development of Mutineer and Exeter petroleum fields for oil production, Permit	2003/1033 Action	Not Controlled	Completed
Drilling between Kalbarri and Cliff Head	2005/2185 Action	Not Controlled	Completed
Drilling of an exploration well Gats-1 in Permit Area WA-261-P	2004/1701 Action	Not Controlled	Completed
Drilling of exploration wells, Permit areas WA-301-P to WA-305-P	2002/769 Action	Not Controlled	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Eagle-1 Exploration Drilling, North West Shelf, WA	2019/8578 Action	Not Controlled	Completed
Echo A Development WA-23-L, WA-24-L	2005/2042 Action	Not Controlled	Completed
Expansion of Monkey Mia Resort Action	2003/1146	Not Controlled	Completed
Expansion of the Sino Iron Ore Mine and export facilities, Cape Preston, WA	2017/7862 Action	Not Controlled	Completed
Expansion Proposal, Mineralogy Cape Preston Iron Ore Project, Cape Preston, WA	2009/5010 Action	Not Controlled	Completed
Exploration drilling well WA-155-P(1) Action	2003/971	Not Controlled	Completed
Exploration of appraisal wells Action	2006/3065	Not Controlled	Completed
Exploration Well (Taunton-2) Action	2002/731	Not Controlled	Completed
Exploration Well in Permit Area WA-155-P(1)	2002/759 Action	Not Controlled	Completed
Exploratory drilling in permit area WA-225-P	2001/490 Action	Not Controlled	Completed
Extension of Simpson Oil Platforms & Wells	2002/685 Action	Not Controlled	Completed
Extention to the existing Blind Strait Black Lip Pearl Oyster Farm	2004/1342 Action	Not Controlled	Completed
Gulf Fishing Lodge	2010/5499	Not Controlled Action	Completed
Hadda 1,Flying Foam 1,Magnat 1 exploration drill	2004/1697 Action	Not Controlled	Completed
HCA05X Macedon Experimental Survey	2004/1926 Action	Not Controlled	Completed
Hess Exploration Drilling Programme Controlled Action	2007/3566	Not	Completed
Huascaran-1 exploration well (WA-292-P)	2001/539 Action	Not Controlled	Completed

Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522 Action	Not Controlled	Completed
--	---------------------	----------------	-----------

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
INDIGO West Submarine Telecommunications Cable, WA	2017/8126 Action	Not Controlled	Completed
Infill Production Well (Griffin-9) Action	2001/417	Not Controlled	Completed
Jansz-2 and 3 Appraisal Wells Action	2002/754	Not Controlled	Completed
Klammer 2D Seismic Survey Action	2002/868	Not Controlled	Completed
Koolan Island Mine - Reconstruction of seawall and capital dewatering of mine pit,130km northwest of	2016/7848 Action	Not Controlled	Completed
Maia-Gaea Exploration wells Action	2000/17	Not Controlled	Completed
Manaslu - 1 and Huascarán - 1 Offshore Exploration Wells	2001/235 Action	Not Controlled	Completed
Marine Seismic Survey in WA-239-P Action	2000/24	Not Controlled	Completed
Mermaid Marine Australia Desalination Project	2011/5916 Action	Not Controlled	Completed
Montesa-1 and Bultaco-1 Exploration Wells	2000/102 Action	Not Controlled	Completed
Murujuga archaeological excavation, collection and sampling, Dampier Archipelago, WA	2014/7160 Action	Not Controlled	Completed
North Rankin B gas compression facility	2005/2500 Action	Not Controlled	Completed
Pipeline System Modifications Project Action	2000/3	Not Controlled	Completed
Port Hedland Channel Risk and Optimisation Project, WA	2017/7915 Action	Not Controlled	Completed
Project Highclere Geophysical Survey Controlled Action	2021/9023	Not	Completed
Rail and Port Facilities	2001/474	Not Controlled	Action Completed
Searipple gas and condensate field development	2000/89 Action	Not Controlled	Completed
Spool Base Facility	2001/263	Not Controlled	Action Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Subsea Gas Pipeline From Stybarrow Field to Griffin Venture Gas Export Pipeline	2005/2033 Action	Not Controlled	Completed
sub-sea tieback of Perseus field wells Controlled Action	2004/1326	Not	Completed
Telfer Gold Mine Project - Mine and Borefield Extensions and Upgrade of Storage	2002/787 Action	Not Controlled	Completed
Telstra North Rankin Spur Fibre Optic Cable	2016/7836 Action	Not Controlled	Completed
Thevenard Island Retirement Project Controlled Action	2015/7423	Not	Completed
To construct and operate an offshore submarine fibre optic cable, WA	2014/7373 Action	Not Controlled	Completed
WA-295-P Kerr-McGee Exploration Wells	2001/152 Action	Not Controlled	Completed
Walkway Lighting Upgrade Action	2009/4965	Not Controlled	Completed
Wanda Offshore Research Project, 80 km north-east of Exmouth, WA	2018/8293 Action	Not Controlled	Completed
Western Flank Gas Development Action	2005/2464	Not Controlled	Completed
Wheatstone 3D seismic survey, 70km north of Barrow Island	2004/1761 Action	Not Controlled	Completed
Not controlled action (particular manner)			
'Kate' 3D marine seismic survey, exploration permits WA-320-P and WA-345-P, 60km	2005/2037 Action (Particular Manner)	Not Controlled	Post-Approval
'Tourmaline' 2D marine seismic survey, permit areas WA-323-P, WA-330-P and WA-32	2005/2282 Action (Particular Manner)	Not Controlled	Post-Approval
"Leanne" offshore 3D seismic exploration, WA-356-P	2005/1938 Action (Particular Manner)	Not Controlled	Post-Approval
2D and 3D seismic surveys Action (Particular Manner)	2005/2151	Not Controlled	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
2D marine seismic survey Action (Particular Manner)	2012/6296	Not Controlled	Post-Approval
2D seismic survey Manner)	2008/4493	Not Controlled Action (Particular	Post-Approval
2D Seismic Survey Manner)	2005/2146	Not Controlled Action (Particular	Post-Approval
2D seismic survey in permit areas WA-274P and WA-281P	2004/1521	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey Permit Area WA-352-P	2008/4628	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey within permit WA-291	2007/3265	Not Controlled Action (Particular Manner)	Post-Approval
2 geotechnical surveys - preliminary and final	2006/2886	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey (Particular Manner)	2008/4281	Not Controlled Action	Post-Approval
3D Marine Seismic Survey (WA-482-P, WA-363-P), WA	2013/6761	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in Permit Areas WA-15-R, WA-18-R, WA-205-P, WA-253-P, WA-267-P and WA-268-P	2003/1271	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in WA 457-P & WA 458-P, North West Shelf, offshore WA	2013/6862	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic Survey - Maxima 3D MSS	2006/2945	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
3D marine seismic survey over petroleum title WA-268-P	2007/3458	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Surveys - Contos CT-13 & Supertubes CT-13, offshore WA	2013/6901	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey 2006/2715	Not	Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, Browse Basin, WA	2009/5048	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, near Scott Reef, Browse Basin	2005/2126	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, WA 2008/4428	Not	Controlled Action	Post-Approval
3D Seismic Survey in the Carnarvon Bsin on the North West Shelf	2002/778	Not Controlled Action (Particular Manner)	Post-Approval
3D sesmic survey 2006/2781	Not	Controlled Action (Particular Manner)	Post-Approval
Acacia East Pit Cutback Mining Project,northern Kimberley, WA	2013/6752	Not Controlled Action (Particular Manner)	Post-Approval
Acheron Non-Exclusive 2D Seismic Survey	2009/4968	Not Controlled Action (Particular Manner)	Post-Approval
Acheron Non-Exclusive 2D Seismic Survey	2008/4565	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Agrippina 3D Seismic Marine Survey Action (Particular Manner)	2009/5212	Not Controlled	Post-Approval
Apache Northwest Shelf Van Gogh Field Appraisal Drilling Program	2007/3495	Not Controlled Action (Particular Manner)	Post-Approval
Aperio 3D Marine Seismic Survey, WA	2012/6648	Not Controlled Action (Particular Manner)	Post-Approval
Artemis-1 Drilling Program (WA-360-P)	2010/5432	Not Controlled Action (Particular Manner)	Post-Approval
Aurora MC3D Marine Seismic Survey Action (Particular Manner)	2010/5510	Not Controlled	Post-Approval
Australia to Singapore Fibre Optic Submarine Cable System	2011/6127	Not Controlled Action (Particular Manner)	Post-Approval
Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA	2013/7081	Not Controlled Action (Particular Manner)	Post-Approval
Balnaves Condensate Field Development	2011/6188	Not Controlled Action (Particular Manner)	Post-Approval
Bonaventure 3D seismic survey Action (Particular Manner)	2006/2514	Not Controlled	Post-Approval
Braveheart 2D Infill Marine Seismic Survey 100km offshore	2008/4442	Not Controlled Action (Particular Manner)	Post-Approval
Braveheart 2D Marine Seismic Survey	2005/2322	Not Controlled Action (Particular Manner)	Post-Approval
Cable Seismic Exploration Permit areas WA-323-P and WA-330-P	2008/4227	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Manner)			
Cape Preston East - Iron Ore Export Facilities, Pilbara, WA	2013/6844	Not Controlled Action (Particular Manner)	Post-Approval
Caswell MC3D Marine Seismic Survey	2012/6594	Not Controlled Action (Particular Manner)	Post-Approval
Cerberus exploration drilling campaign, Carnarvon Basin, WA	2016/7645	Not Controlled Action (Particular Manner)	Post-Approval
CGGVERITAS 2010 2D Seismic Survey	2010/5714	Not Controlled Action (Particular Manner)	Post-Approval
Charon 3D Marine Seismic Survey	2007/3477	Not Controlled Action (Particular Manner)	Post-Approval
Conduct an exploration drilling campaign	2011/5964	Not Controlled Action (Particular Manner)	Post-Approval
Consturction & operation of the Varanus Island kitchen & mess cyclone refuge building, compression p	2013/6952	Not Controlled Action (Particular Manner)	Post-Approval
Coverack Marine Seismic Survey	2001/399	Not Controlled Action (Particular Manner)	Post-Approval
Cue Seismic Survey within WA-359-P, WA-361-P and WA-360-P	2007/3647	Not Controlled Action (Particular Manner)	Post-Approval
CVG 3D Marine Seismic Survey	2012/6654	Not Controlled Action (Particular Manner)	Post-Approval
DAVROS MC 3D marine seismic survey northwaet of Dampier, WA	2013/7092	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Decommissioning of the Legendre facilities	2010/5681	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Drilling Program Action (Particular Manner)	2010/5532	Not Controlled	Post-Approval
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval
Demeter 3D Seismic Survey, off Dampier, WA	2002/900	Not Controlled Action (Particular Manner)	Post-Approval
Draeck 3D Marine Seismic Survey, WA-205-P	2006/3067	Not Controlled Action (Particular Manner)	Post-Approval
Dredging of marine sediment to enable construction of eight berths and a turnin	2010/5678	Not Controlled Action (Particular Manner)	Post-Approval
Drilling 35-40 offshore exploration wells in deep water	2008/4461	Not Controlled Action (Particular Manner)	Post-Approval
Earthworks for kitchen/mess, cyclone refuge building & Compression Plant, Varanus Island	2013/6900	Not Controlled Action (Particular Manner)	Post-Approval
Eendracht Multi-Client 3D Marine Seismic Survey	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
Effect of marine seismic sounds to demersal fish and pearl oysters, north-west WA	2018/8169	Not Controlled Action (Particular Manner)	Post-Approval
Endurance 3D Marine Seismic Data Acquisition Survey	2007/3667	Not Controlled Action (Particular Manner)	Post-Approval
Enfield M3 & Vincent 4D Marine Seismic Surveys	2008/3981	Not Controlled Action (Particular	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Manner)			
Enfield M3 4D, Vincent 4D & 4D Line Test Marine Seismic Surveys	2008/4122	Not Controlled Action (Particular Manner)	Post-Approval
Enfield M4 4D Marine Seismic Survey	2008/4558	Not Controlled	Post-Approval
Action (Particular Manner)			
Enfield oilfield 3D Seismic Survey	2006/3132	Not Controlled	Post-Approval
Action (Particular Manner)			
Exmouth West 2D Marine Seismic Survey	2008/4132	Not Controlled Action (Particular Manner)	Post-Approval
Exploration drilling of Zeus-1 well	2008/4351	Not Controlled	Post-Approval
Action (Particular Manner)			
Exploration Drilling Program - Permit areas - WA-314-P, WA-315-P, WA-398-P.	2008/4064	Not Controlled Action (Particular Manner)	Post-Approval
Fletcher-Finucane Development, WA26-L and WA191-P	2011/6123	Not Controlled Action (Particular Manner)	Post-Approval
Foxhound 3D Non-Exclusive Marine Seismic Survey	2009/4703	Not Controlled Action (Particular Manner)	Post-Approval
Gazelle 3D Marine Seismic Survey in WA-399-P and WA-42-L	2010/5570	Not Controlled Action (Particular Manner)	Post-Approval
Geco Eagle 3D Marine Seismic Survey	2008/3958	Not Controlled Action (Particular Manner)	Post-Approval
Geoscience Australia - Marine survey in Browse Basin to acquire data to assist assessment of CO2 sto	2013/6747	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Gigas 2D Pilot Ocean Bottom Cable Marine Seismic Survey	2007/3839	Not Controlled Action (Particular Manner)	Post-Approval
Glencoe 3D Marine Seismic Survey WA-390-P	2007/3684	Not Controlled Action (Particular Manner)	Post-Approval
Greater Western Flank Phase 1 gas Development	2011/5980	Not Controlled Action (Particular Manner)	Post-Approval
Grimalkin 3D Seismic Survey 2008/4523	2008/4523	Not Controlled Action (Particular Manner)	Post-Approval
Guacamole 2D Marine Seismic Survey	2008/4381	Not Controlled Action (Particular Manner)	Post-Approval
Harmony 3D Marine Seismic Survey Action (Particular Manner)	2012/6699	Not Controlled	Post-Approval
Harpy 1 exploration well 2001/183	2001/183	Not Controlled Action (Particular Manner)	Post-Approval
Honeycombs MC3D Marine Seismic Survey	2012/6368	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas phase 2 marine seismic survey, Exmouth Plateau, Northern Carnarvon Basin, WA	2013/7093	Not Controlled Action (Particular Manner)	Post-Approval
Ichthys 3D Marine Seismic Survey Action (Particular Manner)	2010/5550	Not Controlled	Post-Approval
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Manner)			
John Ross & Rosella Off Bottom Cable Seismic Exploration Program	2008/3966	Not Controlled Action (Particular Manner)	Post-Approval
Judo Marine 3D Seismic Survey within and adjacent to WA-412-P	2008/4630	Not Controlled Action (Particular Manner)	Post-Approval
Judo Marine 3D Seismic Survey within and adjacent to WA-412-P	2009/4801	Not Controlled Action (Particular Manner)	Post-Approval
Julimar Brunello Gas Development Project	2011/5936	Not Controlled Action (Particular Manner)	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Klimt 2D Marine Seismic Survey Action (Particular Manner)	2007/3856	Not Controlled	Post-Approval
Koolama 2D Seismic Survey Dampier Basin	2010/5420	Not Controlled Action (Particular Manner)	Post-Approval
Kraken, Lusca & Asperus 3D Marine Seismic Survey	2013/6730	Not Controlled Action (Particular Manner)	Post-Approval
Laverda 3D Marine Seismic Survey and Vincent M1 4D Marine Seismic Survey	2010/5415	Not Controlled Action (Particular Manner)	Post-Approval
Laying a submarine optical fibre telecommunications cable, Perth to Singapore and Jakarta	2014/7332	Not Controlled Action (Particular Manner)	Post-Approval
Leopard 2D marine seismic survey Action (Particular Manner)	2005/2290	Not Controlled	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Lion 2D Marine Seismic Survey Action (Particular Manner)	2007/3777	Not Controlled	Post-Approval
Macedon Gas Field Development Action (Particular Manner)	2008/4605	Not Controlled	Post-Approval
Marine Geotechnical Drilling Program Action (Particular Manner)	2008/4012	Not Controlled	Post-Approval
Marine reconnaissance survey Action (Particular Manner)	2008/4466	Not Controlled	Post-Approval
Mariner Non-Exclusive 2D Seismic Survey	2011/6172 Action (Particular Manner)	Not Controlled	Post-Approval
Millstream 20GL Pipeline, Bungaroo, Borefield Integration	2012/6379 Action (Particular Manner)	Not Controlled	Post-Approval
Moosehead 2D seismic survey within permit WA-192-P	2005/2167 Action (Particular Manner)	Not Controlled	Post-Approval
Munmorah 2D seismic survey within permits WA-308/9-P	2003/970 Action (Particular Manner)	Not Controlled	Post-Approval
Nelson Point Dredging (Particular Manner)	2009/4920	Not Controlled	Action Post-Approval
Ocean Bottom Cable Seismic Program, WA-264-P	2007/3844 Action (Particular Manner)	Not Controlled	Post-Approval
Ocean Bottom Cable Seismic Survey Action (Particular Manner)	2005/2017	Not Controlled	Post-Approval
Offshore Canning Multi Client 2D Marine Seismic Survey	2010/5393 Action (Particular	Not Controlled	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Manner)			
Offshore Drilling Campaign Action (Particular Manner)	2011/5830	Not Controlled	Post-Approval
Offshore Exploration Drilling Campaign	2011/6222	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to Darwin NT	2014/7223	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Gas Exploration Drilling Campaign	2012/6384	Not Controlled Action (Particular Manner)	Post-Approval
Orcus 3D Marine Seismic Survey in WA-450-P	2010/5723	Not Controlled Action (Particular Manner)	Post-Approval
Osprey and Dionysus Marine Seismic Survey	2011/6215	Not Controlled Action (Particular Manner)	Post-Approval
Outer Canning exploration drilling program off NW coast of WA	2012/6618	Not Controlled Action (Particular Manner)	Post-Approval
Palta-1 exploration well in Petroleum Permit Area WA-384-P	2011/5871	Not Controlled Action (Particular Manner)	Post-Approval
Phoenix 3D Seismic Survey, Bedout Sub-Basin	2010/5360	Not Controlled Action (Particular Manner)	Post-Approval
Pilot Appraisal Well - Torosa South 1	2008/3991	Not Controlled	Post-Approval
Action (Particular Manner)			
Pomodoro 3D Marine Seismic Survey in WA-426-P and WA-427-P	2010/5472	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Port Headland Outer Harbour Pre-construction Pilling program	2012/6341	Not Controlled Action (Particular Manner)	Post-Approval
Port of Port Hedland channel marker replacement project, WA	2017/8010	Not Controlled Action (Particular Manner)	Post-Approval
Port Walcott upgrade, dredging & spoil disposal, & channel realignment	2006/2806	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees 4D Marine Seismic Monitor Survey, HCA12A	2012/6579	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees-Macedon 3D marine seismic survey	2005/2325	Not Controlled Action (Particular Manner)	Post-Approval
Quiberon 2D Seismic Survey, permit area WA-385P, offshore of Carnarvon	2009/5077	Not Controlled Action (Particular Manner)	Post-Approval
Reindeer gas reservior development, Devil Creek, Carnarvon Basin - WA	2007/3917	Not Controlled Action (Particular Manner)	Post-Approval
Repsol 3d & 2D Marine Seismic Survey	2012/6658	Not Controlled Action (Particular Manner)	Post-Approval
Rose 3D Seismic Program	2008/4239	Not Controlled Action (Particular Manner)	Post-Approval
Rosebud 3D Marine Seismic Survey in WA-30-R and TR/5	2012/6493	Not Controlled Action (Particular Manner)	Post-Approval
Rydal-1 Petroleum Exploration Well, WA	2012/6522	Not Controlled Action (Particular Manner)	Post-Approval
Salsa 3D Marine Seismic Survey	2010/5629	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Manner)			
Sampling of Stromatolites, additional sites, Mamelin Pool,WA	2013/7071	Not Controlled Action (Particular Manner)	Post-Approval
Sampling of Stromatolites and Sediments	2012/6307	Not Controlled Action (Particular Manner)	Post-Approval
Santos Winchester three dimensional seismic survey - WA-323-P & WA- 330-P	2011/6107	Not Controlled Action (Particular Manner)	Post-Approval
Scarborough Development nearshore component, NWS, WA	2018/8362	Not Controlled Action (Particular Manner)	Post-Approval
Schild MC3D Marine Seismic Survey Action (Particular Manner)	2012/6373	Not Controlled	Post-Approval
Schild Phase 11 MC3D Marine Seismic Survey, Browse Basin	2013/6894	Not Controlled Action (Particular Manner)	Post-Approval
Scott Reef Seismic Research Action (Particular Manner)	2006/2647	Not Controlled	Post-Approval
Skorpion Marine Seismic Survey WA Action (Particular Manner)	2001/416	Not Controlled	Post-Approval
Sovereign 3D Marine Seismic Survey Action (Particular Manner)	2011/5861	Not Controlled	Post-Approval
Stag 4D & Reindeer MAZ Marine Seismic Surveys, WA	2013/7080	Not Controlled Action (Particular Manner)	Post-Approval
Stag Off-bottom Cable Seismic Survey	2007/3696	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Stybarrow 4D Marine Seismic Survey Action (Particular Manner)	2011/5810	Not Controlled	Post-Approval
Stybarrow Baseline 4D marine seismic survey	2008/4530	Not Controlled Action (Particular Manner)	Post-Approval
Tantabiddi Boat Ramp Sand Bypassing	2015/7411	Not Controlled Action (Particular Manner)	Post-Approval
Tidepole Maz 3D Seismic Survey Campaign	2007/3706	Not Controlled Action (Particular Manner)	Post-Approval
Torosa-5 Apraisal Well, WA-30-R Action (Particular Manner)	2008/4430	Not Controlled	Post-Approval
Tortilla 2D Seismic Survey, WA Action (Particular Manner)	2011/6110	Not Controlled	Post-Approval
Tridacna 3D Ocean Bottom Cable Marine Seismic Survey	2011/5959	Not Controlled Action (Particular Manner)	Post-Approval
Triton 3D Marine Seismic Survey, WA-2-R and WA-3-R	2006/2609	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a 3D marine seismic survey	2010/5695	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a three dimensional marine seismic survey	2010/5679	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a three dimensional marine seismic survey	2010/5715	Not Controlled Action (Particular Manner)	Post-Approval
upgrade of 3 community recreation sites	2005/2349	Not Controlled Action (Particular	Post-Approval

Title of referral Reference	Referral Outcome	Assessment Status	Not controlled action (particular manner)
Useless Loop Port Maintenance Works and Infrastructure Upgrade	2009/4791	Not Controlled Action (Particular Manner)	Post-Approval
Vampire 2D Non Exclusive Seismic Survey, WA	2010/5543	Not Controlled Action (Particular Manner)	Post-Approval
Veritas Voyager 2D Marine Seismic Survey	2009/5151	Not Controlled Action (Particular Manner)	Post-Approval
Vincent M1 and Enfield M5 4D Marine Seismic Survey	2010/5720	Not Controlled Action (Particular Manner)	Post-Approval
Warramunga Non-Inclusive 3D Seismic Survey	2008/4553	Not Controlled Action (Particular Manner)	Post-Approval
West Anchor 3D Marine Seismic Survey	2008/4507	Not Controlled Action (Particular Manner)	Post-Approval
West Panaeus 3D seismic survey Action (Particular Manner)	2006/3141	Not Controlled	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone 3D MAZ Marine Seismic Survey	2011/6058	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone Iago Appraisal Well Drilling	2007/3941	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone Iago Appraisal Well Drilling	2008/4134	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Woodside Southern Browse 3D Seismic Survey, WA	2007/3534	Not Action Manner)	ControlledPost-Approval (Particular
Zeemeermin MC3D seismic survey, Browse Basin, Offshore WA	2009/5023	Not Action Manner)	ControlledPost-Approval (Particular
Referral decision			
3D Marine Seismic Survey in the offshore northwest Carnarvon Basin	2011/6175	Referral Decision	Completed
3D Seismic Survey	2008/4219	Referral Decision	Completed
Aurora extension MC3D Marine Seismic Survey	2011/5887	Referral Decision	Completed
Bianchi 3D Marine Seismic Survey, Carnavon Basin, WA	2013/7078	Referral Decision	Completed
BRSN08 3D Marine Seismic Survey	2008/4582	Referral Decision	Completed
CVG 3D Marine Seismic Survey	2012/6270	Referral Decision	Completed
Enfield 4D Marine Seismic Surveys, Production Permit WA-28-L	2005/2370	Referral Decision	Completed
Experimental Study of Behavioural and Physiological Impact on Fish of Seismic Ex	2006/2625	Referral Decision	Completed
Mardie Salt Project, Pilbara region, WA	2018/8183	Referral Decision	Completed
Outer Harbour Development and associated marine and terrestrial infrastructure	2008/4148	Referral Decision	Completed
Pilot Appraisal Well - Torosa South-1	2008/3985	Referral Decision	Completed
Rose 3D Seismic acquisition survey	2008/4220	Referral Decision	Completed
Seismic Data Acquisition, Browse Basin	2010/5475	Referral Decision	Completed
Stybarrow Baseline 4D Marine Seismic Survey (Permit Areas WA-255-P, WA-32-L, WA-	2008/4165	Referral Decision	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Referral decision Tidal Power Generation Turbine	2009/5235	Referral Decision	Completed
Two Dimensional Transition Zone Seismic Survey - TP/7 (R1)	2010/5507	Referral Decision	Completed
Varanus Island Compression Project	2012/6698	Referral Decision	Completed

Key Ecological Features

[[Resource Information](#)]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Ancient coastline at 125 m depth contour	North-west
Ancient coastline at 90-120m depth	South-west
Canyons linking the Argo Abyssal Plain with the Scott Plateau	North-west
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	North-west
Commonwealth waters adjacent to Ningaloo Reef	North-west
Continental Slope Demersal Fish Communities	North-west
Exmouth Plateau	North-west
Glomar Shoals	North-west
Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	North-west
Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	North-west
Wallaby Saddle	North-west
Western demersal slope and associated fish communities	South-west
Western rock lobster	South-west

Biologically Important Areas

[[Resource Information](#)]

Scientific Name	Behaviour	Presence
Dolphins		
Orcaella heinsohni		
Australian Snubfin Dolphin [81322]	Breeding	Known to occur

Scientific Name	Behaviour	Presence
-----------------	-----------	----------

[Orcaella heinsohni](#)

Australian Snubfin Dolphin [81322] Calving Known to occur

[Orcaella heinsohni](#)

Australian Snubfin Dolphin [81322] Foraging (high density prey) Known to occur

[Orcaella heinsohni](#)

Australian Snubfin Dolphin [81322] Foraging likely Known to occur

[Orcaella heinsohni](#)

Australian Snubfin Dolphin [81322] Resting Known to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Breeding Likely to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Breeding Known to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Calving Known to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Calving Likely to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Foraging Likely to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Foraging (high density prey) Known to occur

[Tursiops aduncus](#)

Indo-Pacific/Spotted Bottlenose Dolphin [68418] Breeding Known to occur

[Tursiops aduncus](#)

Indo-Pacific/Spotted Bottlenose Dolphin [68418] Calving Known to occur

[Tursiops aduncus](#)

Indo-Pacific/Spotted Bottlenose Dolphin [68418] Foraging Known to occur

[Tursiops aduncus](#)

Indo-Pacific/Spotted Bottlenose Dolphin [68418] Foraging likely Known to occur

Scientific Name	Behaviour	Presence
-----------------	-----------	----------

[Tursiops aduncus](#)

Indo-Pacific/Spotted Bottlenose Dolphin [68418] Migration likely Known to occur

Dugong [Dugong dugon](#)

Dugong [28] Breeding Known to occur

[Dugong dugon](#)

Dugong [28] Calving Known to occur

[Dugong dugon](#)

Dugong [28] Foraging Known to occur

[Dugong dugon](#)

Dugong [28] Foraging Likely to occur

[Dugong dugon](#)

Dugong [28] Foraging (high density seagrass beds) Known to occur

[Dugong dugon](#)

Dugong [28] Migration Known to occur

[Dugong dugon](#)

Dugong [28] Migration likely Known to occur

[Dugong dugon](#)

Dugong [28] Nursing Known to occur

Marine Turtles [Caretta caretta](#)

Loggerhead Turtle [1763]Foraging Known to occur

[Caretta caretta](#)

Loggerhead Turtle [1763]Internesting Known to occur

[Caretta caretta](#)

Loggerhead Turtle [1763]Internesting buffer Known to occur

[Caretta caretta](#)

Loggerhead Turtle [1763]Nesting Known to occur

Scientific Name	Behaviour	Presence
Chelonia mydas Green Turtle [1765] Aggregation	Known to occur	
Chelonia mydas Green Turtle [1765] Basking	Known to occur	
Chelonia mydas Green Turtle [1765] Foraging	Known to occur	
Chelonia mydas Green Turtle [1765] Foraging	Likely to occur	
Chelonia mydas Green Turtle [1765] Internesting	Likely to occur	
Chelonia mydas Green Turtle [1765] Internesting	Known to occur	
Chelonia mydas Green Turtle [1765] Internesting buffer		Known to occur
Chelonia mydas Green Turtle [1765] Mating	Known to occur	
Chelonia mydas Green Turtle [1765] Migration corridor		Known to occur
Chelonia mydas Green Turtle [1765] Nesting	Known to occur	
Eretmochelys imbricata Hawksbill Turtle [1766] Foraging	Known to occur	
Eretmochelys imbricata Hawksbill Turtle [1766] Foraging	Likely to occur	
Eretmochelys imbricata Hawksbill Turtle [1766] Internesting	Known to occur	
Eretmochelys imbricata Hawksbill Turtle [1766] Internesting buffer		Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766] Mating	Known to occur	

Scientific Name	Behaviour	Presence
-----------------	-----------	----------

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766] Migration Known to occur

corridor

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766] Nesting Known to occur

[Natator depressus](#)

Flatback Turtle [59257] Aggregation Known to occur

[Natator depressus](#)

Flatback Turtle [59257] Foraging Known to occur

[Natator depressus](#)

Flatback Turtle [59257] Internesting Known to occur

[Natator depressus](#)

Flatback Turtle [59257] Internesting buffer Known to occur

[Natator depressus](#)

Flatback Turtle [59257] Mating Known to occur

[Natator depressus](#)

Flatback Turtle [59257] Migration Known to occur

corridor

[Natator depressus](#)

Flatback Turtle [59257] Nesting Known to occur

River shark [Pristis clavata](#)

Dwarf Sawfish [68447] Foraging Known to occur

[Pristis clavata](#)

Dwarf Sawfish [68447] Juvenile Known to occur

[Pristis clavata](#)

Dwarf Sawfish [68447] Nursing Known to occur

[Pristis clavata](#)

Dwarf Sawfish [68447] Pupping Known to occur

[Pristis pristis](#)

Freshwater Sawfish [60756] Foraging Known to occur

Scientific Name	Behaviour	Presence
-----------------	-----------	----------

Pristis pristis Freshwater Sawfish [60756]	Nursing	Likely to occur
Pristis pristis Freshwater Sawfish [60756]	Nursing	Known to occur
Pristis pristis Freshwater Sawfish [60756]	Pupping	Likely to occur
Pristis zijsron Green Sawfish [68442]	Foraging	Known to occur
Pristis zijsron Green Sawfish [68442]	Nursing	Known to occur
Pristis zijsron Green Sawfish [68442]	Pupping	Known to occur

Seabirds

[Ardenna pacifica](#)
Wedge-tailed Shearwater [84292]

Breeding

Known to occur

[Ardenna pacifica](#)
Wedge-tailed Shearwater [84292]

Foraging (in high numbers)

Known to occur

[Fregata ariel](#)
Lesser Frigatebird [1012]

Breeding

Known to occur

[Fregata minor](#)
Greater Frigatebird [1013]

Breeding

Known to occur

[Hydroprogne caspia](#)
Caspian Tern [808]
(provisioning young)

Foraging

Known to occur

[Onychoprion anaethetus](#)
Bridled Tern [82845]

Foraging (in high numbers)

Known to occur

[Onychoprion fuscata](#)
Sooty Tern [82847]

Foraging

Known to occur

[Pelagodroma marina](#)
White-faced Storm petrel [1016]

Foraging (in high

Known to occur

Scientific Name	Behaviour	Presence
numbers)		
Phaethon lepturus		
White-tailed Tropicbird [1014]	Breeding	Known to occur
Puffinus assimilis tunneyi		
Little Shearwater [59363]	Foraging (in high numbers)	Known to occur
Sterna dougallii		
Roseate Tern [817]	Breeding	Known to occur
Sterna dougallii		
Roseate Tern [817]	Resting	Known to occur
Sternula albifrons sinensis		
Little Tern [82850]	Breeding	Known to occur
Sternula albifrons sinensis		
Little Tern [82850]	Resting	Known to occur
Sternula nereis		
Fairy Tern [82949]	Breeding	Known to occur
Sula leucogaster		
Brown Booby [1022]	Breeding	Known to occur
Sula sula		
Red-footed Booby [1023]	Breeding	Known to occur
Thalasseus bengalensis		
Lesser Crested Tern [66546]	Breeding	Known to occur
Sharks Rhincodon typus		
Whale Shark [66680]	Foraging	Known to occur
Rhincodon typus		
Whale Shark [66680]	Foraging (high density prey)	Known to occur
Whales Balaenoptera musculus brevicauda		
Pygmy Blue Whale [81317]	Distribution	Known to occur

Scientific Name	Behaviour	Presence
<u>Balaenoptera musculus brevicauda</u> Pygmy Blue Whale [81317]	Foraging	Known to occur
<u>Balaenoptera musculus brevicauda</u> Pygmy Blue Whale [81317]	Migration	Known to occur
<u>Megaptera novaeangliae</u> Humpback Whale [38]	Calving	Known to occur
<u>Megaptera novaeangliae</u> Humpback Whale [38]	Migration	Known to occur
<u>Megaptera novaeangliae</u> Humpback Whale [38] (north)	Migration	Known to occur
<u>Megaptera novaeangliae</u> Humpback Whale [38] (north and south)	Migration	Known to occur
<u>Megaptera novaeangliae</u> Humpback Whale [38]	Nursing	Known to occur
<u>Megaptera novaeangliae</u> Humpback Whale [38]	Resting	Known to occur

Caveat

PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

World and National Heritage properties;

Wetlands of International and National Importance;

Commonwealth and State/Territory reserves;

distribution of listed threatened, migratory and marine species;

listed threatened ecological communities; and

other information that may be useful as an indicator of potential habitat value.

DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

threatened species listed as extinct or considered vagrants;

some recently listed species and ecological communities;

some listed migratory and listed marine species, which are not listed as threatened species; and

migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

[© Commonwealth of Australia](#)
[Department of Climate Change, Energy, the Environment and Water](#) GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111



Australian Government

**Department of Climate Change, Energy,
the Environment and Water**

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 06-Jun-2024 [Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#) [Extra Information](#)

[Caveat](#) [Acknowledgements](#)

NWMR PMST sub area 2 (North area)



Summary

Matters of National Environment Significance This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	1
Wetlands of International Importance (Ramsar)	2
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	8
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	53
Listed Migratory Species:	64

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	3
Commonwealth Heritage Places:	1
Listed Marine Species:	107
Whales and Other Cetaceans:	27
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	7
Habitat Critical to the Survival of Marine Turtles:	3

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	14
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	118
Key Ecological Features (Marine):	7
Biologically Important Areas:	57
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

National Heritage Places		[Resource Information]
Name	State	Legal Status
Natural		
The West Kimberley	WA	Listed place

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name		Proximity
Ashmore reef national nature reserve		Within Ramsar site
Ord river floodplain		Within 10km of Ramsar site

Commonwealth Marine Area	[Resource Information]
--------------------------	--------------------------

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name Commonwealth Marine Areas (EPBC Act)

Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act)

Listed Threatened Species	[Resource Information]
---------------------------	--------------------------

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act. Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Anous tenuirostris melanops		
Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Calidris acuminata](#)
 Sharp-tailed Sandpiper [874] Vulnerable Species or species habitat known to occur within area

[Calidris canutus](#)
 Red Knot, Knot [855] Vulnerable Species or species habitat known to occur within area

[Calidris ferruginea](#)
 Curlew Sandpiper [856] Critically Endangered Species or species habitat known to occur within area

[Charadrius leschenaultii](#)
 Greater Sand Plover, Large Sand Plover [877] Vulnerable Species or species habitat known to occur within area

[Erythrotriorchis radiatus](#)
 Red Goshawk [942] Endangered Species or species habitat likely to occur within area

[Erythrura gouldiae](#)
 Gouldian Finch [413] Endangered Species or species habitat likely to occur within area

[Falco hypoleucos](#)
 Grey Falcon [929] Vulnerable Species or species habitat likely to occur within area

[Falcunculus frontatus whitei](#)
 Crested Shrike-tit (northern), Northern Shrike-tit [26013] Vulnerable Species or species habitat likely to occur within area

[Geophaps smithii blaauwi](#)
 Partridge Pigeon (western) [66501] Vulnerable Species or species habitat likely to occur within area

[Limnodromus semipalmatus](#)
 Asian Dowitcher [843] Vulnerable Species or species habitat known to occur within area

[Limosa lapponica baueri](#)
 Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380] Endangered Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Endangered	Species or species habitat known to occur within area
---	------------	---

Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
---	-----------------------	---

Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
--	------------	--

Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Foraging, feeding or related behaviour likely to occur within area
--	------------	--

Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Breeding known to occur within area
---	------------	-------------------------------------

Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
--	------------	--

Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area
---	------------	--

Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat likely to occur within area
--	------------	--

FISH

Thunnus maccoyii Southern Bluefin Tuna [69402] Dependent	Conservation	Breeding known to occur within area
--	--------------	-------------------------------------

MAMMAL

Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
---	------------	--

Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
--	------------	--

Scientific Name	Threatened Category	Presence Text
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Conilurus penicillatus Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area
Isoodon auratus auratus Golden Bandicoot (mainland) [66665]	Vulnerable	Species or species habitat likely to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat known to occur within area
Mesembriomys gouldii gouldii Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga, Manbul [87618]	Endangered	Species or species habitat may occur within area
Petrogale concinna monastria Nabarlek (Kimberley) [87607]	Endangered	Species or species habitat known to occur within area
Phascogale tapoatafa kimberleyensis Kimberley brush-tailed phascogale, Brush-tailed Phascogale (Kimberley) [88453]	Vulnerable	Species or species habitat likely to occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheath-tailed Bat, Bare-rumped Sheathtail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area
Trichosurus vulpecula arnhemensis Northern Brushtail Possum [83091]	Vulnerable	Species or species habitat likely to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat likely to occur within area

REPTILE

Scientific Name	Threatened Category	Presence Text
Acanthophis hawkei Plains Death Adder [83821]	Vulnerable	Species or species habitat may occur within area
Aipysurus apraefrontalis Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Tiliqua scincoides intermedia Northern Blue-tongued Skink [89838]	Critically Endangered	Species or species habitat known to occur within area
Varanus mertensi Mertens' Water Monitor, Mertens's Water Monitor [1568]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Varanus mitchelli](#)
 Mitchell's Water Monitor [1569]

Critically Endangered

Species or species habitat likely to occur within area

SHARK

[Carcharodon carcharias](#)
 White Shark, Great White Shark [64470]

Vulnerable

Species or species habitat may occur within area

[Glyphis garricki](#)
 Northern River Shark, New Guinea River Shark [82454]

Endangered

Species or species habitat known to occur within area

[Pristis clavata](#)
 Dwarf Sawfish, Queensland Sawfish [68447]

Vulnerable

Species or species habitat known to occur within area

[Pristis pristis](#)
 Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]

Vulnerable

Species or species habitat likely to occur within area

[Pristis zijsron](#)
 Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]

Vulnerable

Species or species habitat known to occur within area

[Rhincodon typus](#)
 Whale Shark [66680]

Vulnerable

Foraging, feeding or related behaviour known to occur within area

[Sphyrna lewini](#)
 Scalloped Hammerhead [85267]

Conservation Dependent

Species or species habitat known to occur within area

Listed Migratory Species

[[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

Migratory Marine Birds

[Anous stolidus](#)
 Common Noddy [825]

Breeding known to occur within area

[Apus pacificus](#)
 Fork-tailed Swift [678]

Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Ardenna pacifica Wedge-tailed Shearwater [84292]	Breeding known to occur within area	
Calonectris leucomelas Streaked Shearwater [1077]	Species or species habitat known to occur within area	
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Hydroprogne caspia Caspian Tern [808]	Breeding known to occur within area	
Onychoprion anaethetus Bridled Tern [82845]	Breeding known to occur within area	
Phaethon lepturus White-tailed Tropicbird [1014]	Breeding known to occur within area	
Phaethon rubricauda Red-tailed Tropicbird [994]	Breeding known to occur within area	
Sterna dougallii Roseate Tern [817]	Breeding known to occur within area	
Sternula albifrons Little Tern [82849]	Breeding known to occur within area	
Sula dactylatra Masked Booby [1021]	Breeding known to occur within area	
Sula leucogaster Brown Booby [1022]	Breeding known to occur within area	
Sula sula Red-footed Booby [1023]	Breeding known to occur within area	
Migratory Marine Species		

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Anoxypristis cuspidata](#)
Narrow Sawfish, Knifetooth Sawfish
[68448]

Species or species habitat likely to occur within area

[Balaenoptera borealis](#)
Sei Whale [34] Vulnerable

Foraging, feeding or related behaviour likely to occur within area

[Balaenoptera edeni](#)
Bryde's Whale [35]

Species or species habitat likely to occur within area

[Balaenoptera musculus](#)
Blue Whale [36]

Endangered

Migration route known to occur within area

[Balaenoptera physalus](#)
Fin Whale [37] Vulnerable

Foraging, feeding or related behaviour likely to occur within area

[Carcharhinus longimanus](#)
Oceanic Whitetip Shark [84108]

Species or species habitat may occur within area

[Carcharodon carcharias](#)
White Shark, Great White Shark [64470] Vulnerable

Species or species habitat may occur within area

[Caretta caretta](#)
Loggerhead Turtle [1763]Endangered

Foraging, feeding or related behaviour known to occur within area

[Chelonia mydas](#)
Green Turtle [1765] Vulnerable

Breeding known to occur within area

[Crocodylus porosus](#)
Salt-water Crocodile, Estuarine Crocodile [1774]

Species or species habitat likely to occur within area

[Dermochelys coriacea](#)
Leatherback Turtle, Leathery Turtle, Luth[1768]

Endangered

Breeding likely to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Dugong dugon](#)

Dugong [28] Breeding known to occur within area

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766] Vulnerable Foraging, feeding or related behaviour known to occur within area

[Isurus oxyrinchus](#)

Shortfin Mako, Mako Shark [79073]Species or species habitat likely to occur within area

[Isurus paucus](#)

Longfin Mako [82947] Species or species habitat likely to occur within area

[Lepidochelys olivacea](#)

Olive Ridley Turtle, Pacific Ridley Turtle [1767] Endangered Foraging, feeding or related behaviour known to occur within area

[Megaptera novaeangliae](#)

Humpback Whale [38] Breeding known to occur within area

[Mobula alfredi as Manta alfredi](#)

Reef Manta Ray, Coastal Manta Ray [90033] Species or species habitat known to occur within area

[Mobula birostris as Manta birostris](#)

Giant Manta Ray [90034] Species or species habitat likely to occur within area

[Natator depressus](#)

Flatback Turtle [59257] Vulnerable Breeding known to occur within area

[Orcaella heinsohni](#)

Australian Snubfin Dolphin [81322] Breeding known to occur within area

[Orcinus orca](#)

Killer Whale, Orca [46] Species or species habitat may occur within area

[Physeter macrocephalus](#)

Sperm Whale [59] Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Pristis clavata](#)
Dwarf Sawfish, Queensland Sawfish [68447]

Vulnerable

Species or species habitat known to occur within area

[Pristis pristis](#)
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]

Vulnerable

Species or species habitat likely to occur within area

[Pristis zijsron](#)
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]

Vulnerable

Species or species habitat known to occur within area

[Rhincodon typus](#)
Whale Shark [66680]

Vulnerable

Foraging, feeding or related behaviour known to occur within area

[Sousa sahalensis as Sousa chinensis](#)
Australian Humpback Dolphin [87942]

Breeding known to occur within area

[Tursiops aduncus \(Arafura/Timor Sea populations\)](#)
Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]

Species or species habitat likely to occur within area

Migratory Terrestrial Species
[Cecropis daurica](#)
Red-rumped Swallow [80610]

Species or species habitat may occur within area

[Cuculus optatus](#)
Oriental Cuckoo, Horsfield's Cuckoo [86651]

Species or species habitat known to occur within area

[Hirundo rustica](#)
Barn Swallow [662]

Species or species habitat known to occur within area

[Motacilla cinerea](#)
Grey Wagtail [642]

Species or species habitat known to occur within area

[Motacilla flava](#)
Yellow Wagtail [644]

Species or species habitat known to occur within area

Migratory Wetlands Species

Scientific Name	Threatened Category	Presence Text
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Lands		[Resource Information]
The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.		
Commonwealth Land Name		State
Unknown		
Commonwealth Land - [52278]	ACI	
Commonwealth Land - [52276]	ACI	
Commonwealth Land - [52277]	ACI	

Commonwealth Heritage Places		[Resource Information]
Name	State	Status
Natural		
Ashmore Reef National Nature Reserve	EXT	Listed place

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area overfly marine area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Anous minutus Black Noddy [824]		Breeding known to occur within area
Anous stolidus Common Noddy [825]		Breeding known to occur within area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Ardenna pacifica as Puffinus pacificus Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calonectris leucomelas Streaked Shearwater [1077]	Species or species habitat known to occur within area	
Cecropis daurica as Hirundo daurica Red-rumped Swallow [80610]	Species or species habitat may occur within area overfly marine area	
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]	Species or species habitat known to occur within area overfly marine area	
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable Species or species habitat known to occur within area	
Charadrius veredus Oriental Plover, Oriental Dotterel [882]	Species or species habitat may occur within area overfly marine area	
Chroicocephalus novaehollandiae as Larus novaehollandiae Silver Gull [82326]	Breeding known to occur within area	
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Glareola maldivarum Oriental Pratincole [840]	Species or species habitat may occur within area overfly marine area	
Haliaeetus leucogaster White-bellied Sea-Eagle [943]	Species or species habitat known to occur within area	
Hirundo rustica Barn Swallow [662]	Species or species habitat known to occur within area overfly marine area	

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Hydroprogne caspia as Sterna caspia](#)

Caspian Tern [808] Breeding known to occur within area

[Limnodromus semipalmatus](#)

Asian Dowitcher [843] Vulnerable Species or species habitat known to occur within area overfly marine area

[Limosa lapponica](#)

Bar-tailed Godwit [844] Species or species habitat known to occur within area

[Merops ornatus](#)

Rainbow Bee-eater [670] Species or species habitat may occur within area overfly marine area

[Motacilla cinerea](#)

Grey Wagtail [642] Species or species habitat known to occur within area overfly marine area

[Motacilla flava](#)

Yellow Wagtail [644] Species or species habitat known to occur within area overfly marine area

[Numenius madagascariensis](#) Eastern

Curlew, Far Eastern Curlew [847] Critically Endangered Species or species habitat known to occur within area

[Onychoprion anaethetus as Sterna anaethetus](#)

Bridled Tern [82845] Breeding known to occur within area

[Pandion haliaetus](#)

Osprey [952] Breeding known to occur within area

[Papasula abbotti](#)

Abbott's Booby [59297] Endangered Species or species habitat may occur within area

[Phaethon lepturus](#)

White-tailed Tropicbird [1014] Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Phaethon lepturus fulvus](#)

Christmas Island White-tailed Tropicbird, Endangered Foraging, feeding or related behaviour likely to occur within area

Golden Bosunbird [26021]

[Phaethon rubricauda](#)

Red-tailed Tropicbird [994] Breeding known to occur within area

[Rostratula australis as Rostratula benghalensis \(sensu lato\)](#)

Australian Painted Snipe [77037] Endangered Species or species habitat likely to occur within area overfly marine area

[Sterna dougallii](#)

Roseate Tern [817] Breeding known to occur within area

[Sternula albifrons as Sterna albifrons](#)

Little Tern [82849] Breeding known to occur within area

[Sula dactylatra](#)

Masked Booby [1021] Breeding known to occur within area

[Sula leucogaster](#)

Brown Booby [1022] Breeding known to occur within area

[Sula sula](#)

Red-footed Booby [1023] Breeding known to occur within area

[Thalasseus bengalensis as Sterna bengalensis](#)

Lesser Crested Tern [66546] Breeding known to occur within area

[Thalasseus bergii as Sterna bergii](#)

Greater Crested Tern [83000] Breeding known to occur within area

[Tringa nebularia](#)

Common Greenshank, Greenshank Endangered Species or species habitat likely to occur within area overfly marine area

[832]

Fish

[Bhanotia fasciolata](#)

Corrugated Pipefish, Barbed Pipefish Species or species habitat may occur within area

[66188]

Scientific Name	Threatened Category	Presence Text
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]	Species or species habitat may occur within area	
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
Corythoichthys schultzi Schultz's Pipefish [66205]	Species or species habitat may occur within area	
Cosmocampus banneri Roughridge Pipefish [66206]	Species or species habitat may occur within area	
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Filicampus tigris](#)

Tiger Pipefish [66217] Species or species habitat may occur within area

[Halicampus brocki](#)

Brock's Pipefish [66219] Species or species habitat may occur within area

[Halicampus dunckeri](#)

Red-hair Pipefish, Duncker's Pipefish [66220] Species or species habitat may occur within area

[Halicampus grayi](#)

Mud Pipefish, Gray's Pipefish [66221] Species or species habitat may occur within area

[Halicampus spinirostris](#)

Spiny-snout Pipefish [66225] Species or species habitat may occur within area

[Haliichthys taeniophorus](#)

Ribboned Pipehorse, Ribboned Seadragon [66226] Species or species habitat may occur within area

[Hippichthys penicillus](#)

Beady Pipefish, Steep-nosed Pipefish [66231] Species or species habitat may occur within area

[Hippocampus angustus](#)

Western Spiny Seahorse, Narrow-bellied Seahorse [66234] Species or species habitat may occur within area

[Hippocampus histrix](#)

Spiny Seahorse, Thorny Seahorse [66236] Species or species habitat may occur within area

[Hippocampus kuda](#)

Spotted Seahorse, Yellow Seahorse [66237] Species or species habitat may occur within area

[Hippocampus planifrons](#)

Flat-face Seahorse [66238] Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]	Species or species habitat may occur within area	
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammal Dugong dugon Dugong [28] Breeding known to occur within area		
Reptile Aipysurus apraefrontalis Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered within area	Species or species habitat known to occur
Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Aipysurus fuscus Dusky Sea Snake [1119]	Species or species habitat known to occur within area	
Aipysurus laevis Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
Aipysurus mosaicus as Aipysurus eydouxii Mosaic Sea Snake [87261]	Species or species habitat may occur within area	
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Emydocephalus annulatus Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Sea Snake [1101]	Species or species habitat may occur within area	
Hydrophis coggeri Cogger's Sea Snake [25925]	Species or species habitat may occur within area	
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]	Species or species habitat may occur within area	
Hydrophis inornatus Plain Sea Snake [1107]	Species or species habitat may occur within area	
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]	Species or species habitat may occur within area	
Hydrophis macdowelli as Hydrophis mcdowelli MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]	Species or species habitat may occur within area	
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]	Species or species habitat may occur within area	

Scientific Name	Threatened Category	Presence Text
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Hydrophis zweiffei as Enhydrina schistosa Australian Beaked Sea Snake [93514]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle[1767]	Endangered	Foraging, feeding or related behaviour known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Lagenodelphis hosei Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Breeding known to occur within area	
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Breeding known to occur within area	
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Sousa sahalensis Australian Humpback Dolphin [87942]	Breeding known to occur within area	
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]	Species or species habitat may occur within area	
Steno bredanensis Rough-toothed Dolphin [30]	Species or species habitat may occur within area	
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]	Species or species habitat may occur within area	
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Australian Marine Parks		[Resource Information]
Park Name	Zone & IUCN Categories	
Joseph Bonaparte Gulf	Multiple Use Zone (IUCN VI)	
Kimberley	Multiple Use Zone (IUCN VI)	

Park Name	Zone & IUCN Categories
Oceanic Shoals	Multiple Use Zone (IUCN VI)
Ashmore Reef	Recreational Use Zone (IUCN IV)
Ashmore Reef	Sanctuary Zone (IUCN Ia)
Cartier Island	Sanctuary Zone (IUCN Ia)
Oceanic Shoals	Special Purpose Zone (Trawl) (IUCN VI)

Habitat Critical to the Survival of Marine Turtles			[Resource Information]
Scientific Name	Behaviour	Presence	
Aug - Sep			

Natator depressus

Flatback Turtle [59257]	Nesting	Known to occur
-------------------------	---------	----------------

Dec - Jan *Chelonia mydas*

Green Turtle [1765] Nesting Known to occur

May - Jul Lepidochelys olivacea

Olive Ridley Turtle [1767]Nesting Known to occur

Extra Information

State and Territory Reserves		[Resource Information]
Protected Area Name	Reserve Type	State
Balanggarra	Indigenous Protected Area	WA
Browse Island	Nature Reserve	WA
Dambimangari	Indigenous Protected Area	WA
Lalang-garram / Camden Sound	Marine Park	WA
Lesueur Island	Nature Reserve	WA
Low Rocks	Nature Reserve	WA
Niiwalarra Islands	National Park	WA
North Kimberley	Marine Park	WA
Nort Lalang-garram	Marine Park	WA

Protected Area Name	Reserve Type	State
Pelican Island	Nature Reserve	WA
Prince Regent	National Park	WA
Unnamed WA41775	5(1)(h) Reserve	WA
Unnamed WA44677	5(1)(h) Reserve	WA
Uunguu	Indigenous Protected Area	WA

Nationally Important Wetlands	[Resource Information]
Wetland Name	State
Ashmore Reef	EXT

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Marine Route Survey for Subsea Fibre Optic Data Cable System - Australia West	2024/09826		Referral Decision
Project Crux Cable Lay and Operation	2022/09441		Completed
Project Fitzroy Expansion Offshore Cable Lay	2023/09674		Referral Decision

Controlled action

2-D seismic survey Scott Reef

2000/125

Controlled Action

Post-Approval

[Audacious Oil Field Standalone Development](#)

2001/407

Controlled Action

Completed

[Bonaparte Liquified Natural Gas Project](#)

2011/6141

Controlled Action

Post-Approval

[Conduct an exploration drilling campaign](#)

2010/5718

Controlled Action

Completed

[Decommissioning of Challis Oilfield](#)

2003/942

Controlled Action

Post-Approval

[Develop Ichthys gas-condensate field permit area W](#)

2006/2767

Controlled Action

Completed

[Development of Blacktip Gas Field](#)

2003/1180

Controlled Action

Post-Approval

[Development of Browse Basin Gas Fields \(Upstream\)](#)

2008/4111

Controlled Action

Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Ichthys Gas Field, Offshore and onshore processing facilities and subsea pipeline	2008/4208	Controlled Action	Post-Approval
Montara 4, 5, and 6 Oil Production Wells, and Montara 3 Gas Re-Injection Well	2002/755	Controlled Action	Post-Approval
Prelude Floating Liquefied Natural Gas Facility and Gas Field Development	2008/4146	Controlled Action	Post-Approval
PTTEP AA Floating LNG Facility	2011/6025	Controlled Action	Completed
Not controlled action			
2D seismic survey, exploration permit NT/P67	2004/1587	Not Action	ControlledCompleted
2D Seismic Survey in Permit Areas WA-318-P & WA-319-P, near Cape Londonderry	2004/1687	Not Action	ControlledCompleted
3D marine seismic survey in WA 314P and WA 315P	2004/1927	Not Action	ControlledCompleted
Adele Trend TQ3D Seismic Survey	2001/252	Not Action	ControlledCompleted
AEC International Hydrocarbon Well Puffin 6	2000/36	Not Action	ControlledCompleted
Audacious-3 oil drilling well	2003/1042	Not Action	ControlledCompleted
Backpacker-1 Offshore Hydrocarbon Exploration Well	2001/300	Not Action	ControlledCompleted
Coot-1 hydrocarbon exploration well, Permit Area AC/L2 or AC/L3	2001/296	Not Action	ControlledCompleted
Crux-A and Crux-B appraisal wells, Petroleum Permit Area AC/P23	2006/2748	Not Action	ControlledCompleted
Crux gas-liquids development in permit AC/P23	2006/3154	Not Action	ControlledCompleted
Drilling of 12 Hydrocarbon Exploration Wells, Permit Area WA-371-P	2006/3005	Not Action	ControlledCompleted
Drilling of exploration well Audacious- 1 in AC/P17	2000/5	Not Action	ControlledCompleted
Drilling of exploration wells, Permit areas WA-301-P to WA-305-P	2002/769	Not Action	ControlledCompleted

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Drilling of Marina-1 Exploration Well	2007/3586	Not Controlled Action	Completed
Echuca Shoals-2 Exploration of Appraisal Well	2006/3020	Not Action	ControlledCompleted
Exploration Drilling in AC/P17, AC/P18 and AC/P24	2001/359	Not Action	ControlledCompleted
Exploration Well AC/P23	2001/234	Not Action	ControlledCompleted
Kaleidoscope exploration well	2001/182	Not Action	ControlledCompleted
Marine Seismic Survey in WA-239-P	2000/24	Not Action	ControlledCompleted
Marine Survey for the Australia- ASEAN Power Link AAPL	2020/8714	Not Action	ControlledCompleted
Montara-3 Offshore Hydrocarbon Exploration Well Permit Area AC/RL3	2001/489	Not Action	ControlledCompleted
Nexus Drilling Program NT-P66	2007/3745	Not Action	ControlledCompleted
P30 Hydrocarbon Exploration Well	2001/293	Not Action	ControlledCompleted
Project Highclere Geophysical Survey	2021/9023	Not Action	ControlledCompleted
Puffin Oil wells 7, 8 & 9 development	2005/2336	Not Action	ControlledCompleted
Saucepan 1 Exploration Well ACP23	2000/2	Not Action	ControlledCompleted
Skua and Swift Oilfields	2006/3195	Not Action	ControlledCompleted
Strumbo-1 Gas Exploration Well Permit Area WA-288-P	2002/884	Not Action	ControlledCompleted
Thresher-1 Well	2000/84	Not Action	ControlledCompleted
Not controlled action (particular manner)			
2 (3D) Marine Seismic Surveys	2009/4994	Not Action (Particular Manner)	ControlledCompleted
2D and 3D Seismic Survey	2011/6197	Not Action (Particular	ControlledPost-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
2D and 3D Seismic Survey WA-405-P Action (Particular Manner)	2009/5104	Not Controlled	Post-Approval
2D and 3D Seismic Survey WA-405-P Action (Particular Manner)	2008/4133	Not Controlled	Post-Approval
2D Marine Seismic Survey Action (Particular Manner)	2009/4728	Not Controlled	Post-Approval
2D marine seismic survey of Braveheart,Kurrajong,Sunshine and Crocodile	2006/2917	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey within permit area WA-318-P	2007/3879	Not Controlled Action (Particular Manner)	Post-Approval
2D or 3D Marine Seismic Survey in Petroleum Permit Area AC/P35	2009/4864	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Marine Survey Action (Particular Manner)	2001/363	Not Controlled	Post-Approval
2D Seismic survey Manner)	2009/5076	Not Controlled Action (Particular	Post-Approval
2D seismic survey in permit areas WA-274P and WA-281P	2004/1521	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey in WA Permit Area TP/22 and Commonwealth Permit Area WA-280-P	2005/2100	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey Action (Particular Manner)	2008/4437	Not Controlled	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
3D Marine Seismic Survey, Permit AC/P 23	2005/2364	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, Browse Basin, WA	2009/5048	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, near Scott Reef, Browse Basin	2005/2126	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, petroleum exploration permit AC/P33	2006/2918	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey of AC/P4, AC/P17 and AC/P24	2006/2857	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey WA-406-P Bonaparte Basin	2007/3904	Not Controlled Action (Particular Manner)	Post-Approval
AC/P37 3D Seismic Survey Ashmore Cartier	2007/3774	Not Controlled Action (Particular Manner)	Post-Approval
Auralandia 3D marine seismic survey Action (Particular Manner)	2011/5961	Not Controlled	Post-Approval
Aurora MC3D Marine Seismic Survey Action (Particular Manner)	2010/5510	Not Controlled	Post-Approval
Bassett 3D Marine Seismic Survey Action (Particular Manner)	2010/5538	Not Controlled	Post-Approval
Bonaparte 2D & 3D marine seismic survey	2011/5962	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte Seismic and Bathymetric Survey	2012/6295	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Manner)			
Braveheart 2D Infill Marine Seismic Survey 100km offshore	2008/4442	Not Controlled Action (Particular Manner)	Post-Approval
Braveheart 2D Marine Seismic Survey	2005/2322	Not Controlled Action (Particular Manner)	Post-Approval
Canis 3D Marine Seismic Survey	2008/4492	Not Controlled Action (Particular Manner)	Post-Approval
Cartier East and Cartier West 3D Marine Seismic Surveys	2009/5230	Not Controlled Action (Particular Manner)	Post-Approval
Caswell MC3D Marine Seismic Survey	2012/6594	Not Controlled Action (Particular Manner)	Post-Approval
Conduct an exploration drilling campaign	2011/5964	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval
Drilling of Audacious-5 appraisal well	2008/4327	Not Controlled Action (Particular Manner)	Post-Approval
Drilling of Exploration & Appraisal Wells Braveheart-1 & Cornea-3	2009/5160	Not Controlled Action (Particular Manner)	Post-Approval
Drilling of two appraisal wells	2011/5840	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Campaign	2011/6047	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Exploration Drilling Campaign, Browse Basin, WA-341-P, AC-P36 and WA-343-P	2013/6898	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling in Permit Areas WA-402-P & WA-403-P	2010/5297	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Program - Permit areas - WA-314-P, WA-315-P, WA-398-P.	2008/4064	Not Controlled Action (Particular Manner)	Post-Approval
Fishburn2D Marine Seismic Survey Action (Particular Manner)	2012/6659	Not Controlled	Post-Approval
Floyd 3D and Chisel 3D Seismic Surveys	2011/6220	Not Controlled Action (Particular Manner)	Post-Approval
Gicea 3D Marine Seismic Survey Action (Particular Manner)	2008/4389	Not Controlled	Post-Approval
Gold 2D Marine Seismic Survey Permit Areas WA375P and WA376P	2009/4698	Not Controlled Action (Particular Manner)	Post-Approval
Ichthys 3D Marine Seismic Survey Action (Particular Manner)	2010/5550	Not Controlled	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Kraken, Lusca & Asperus 3D Marine Seismic Survey	2013/6730	Not Controlled Action (Particular Manner)	Post-Approval
Malita West 3D Seismic Survey WA-402-P and WA-403-P	2007/3936	Not Controlled Action (Particular Manner)	Post-Approval
Marine Environmental Survey 2012 Action (Particular	2012/6310	Not Controlled	Post-Approval

Title of referral Reference	Referral Outcome	Assessment Status	Not controlled action (particular manner)
Nova 3D Seismic Survey (Particular Manner)	2013/6825	Not Controlled	Action Post-Approval
NT/P80 2010 2D Marine Seismic Survey	2010/5487	Not Controlled	Action (Particular Manner) Post-Approval
Octantis 3D Marine Seismic Survey, Permit Area AC/P41 off northern Western Australia	2007/3369	Not Controlled	Action (Particular Manner) Post-Approval
Offshore Exploration Drilling Campaign	2011/6222	Not Controlled	Action (Particular Manner) Post-Approval
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to Darwin NT	2014/7223	Not Controlled	Action (Particular Manner) Post-Approval
Offshore Gas Exploration Drilling Campaign	2012/6384	Not Controlled	Action (Particular Manner) Post-Approval
Petrel MC2D Marine Seismic Survey Action (Particular Manner)	2010/5368	Not Controlled	Post-Approval
Sandalford 3D Seismic Survey Action (Particular Manner)	2012/6261	Not Controlled	Post-Approval
Santos Petrel-7 Offshore Appraisal Drilling Programme (Bonaparte Basin)	2011/5934	Not Controlled	Action (Particular Manner) Post-Approval
Schild MC3D Marine Seismic Survey Action (Particular Manner)	2012/6373	Not Controlled	Post-Approval
Schild Phase 11 MC3D Marine Seismic Survey, Browse Basin	2013/6894	Not Controlled	Action (Particular Manner) Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Searcher bathymetry & geochemical seismic survey, Browse Basin,Timor Sea,WA	2013/6980	Not Controlled Action (Particular Manner)	Post-Approval
Sonar and Acoustic Trials (Particular Manner)	2001/345	Not Controlled	Action Post-Approval
Songa Venus Drilling and Testing Operations	2009/5122	Not Controlled Action (Particular Manner)	Post-Approval
Thoar 3D Marine Seismic Survey Action (Particular Manner)	2010/5668	Not Controlled	Post-Approval
Tiffany 3D Seismic Survey Action (Particular Manner)	2010/5339	Not Controlled	Post-Approval
Tow West Atlas wreck from present location to boundary of EEZ	2010/5652	Not Controlled Action (Particular Manner)	Post-Approval
Ursa 3D Marine Seismic Survey Action (Particular Manner)	2008/4634	Not Controlled	Post-Approval
Vampire 2D Non Exclusive Seismic Survey, WA	2010/5543	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Zeppelin 3D Seismic Survey Action (Particular Manner)	2011/6148	Not Controlled	Post-Approval
Referral decision			
2D Marine Seismic Survey	2008/4623	Referral Decision	Completed
BRSN08 3D Marine Seismic Survey	2008/4582	Referral Decision	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Referral decision			
Nova 3D Seismic Survey, WA 442-NT/P81, Joseph Bonaparte Gulf	2013/6820	Referral Decision	Completed
Puffin South-West Development of Oil Reserves	2007/3834	Referral Decision	Completed
Seismic Data Acquisition, Browse Basin	2010/5475	Referral Decision	Completed

Key Ecological Features

[[Resource Information](#)]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Ancient coastline at 125 m depth contour	North-west
Ashmore Reef and Cartier Island and surrounding Commonwealth waters	North-west
Carbonate bank and terrace system of the Sahul Shelf	North-west
Continental Slope Demersal Fish Communities	North-west
Pinnacles of the Bonaparte Basin	North
Pinnacles of the Bonaparte Basin	North-west
Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	North-west

Biologically Important Areas

[[Resource Information](#)]

Scientific Name	Behaviour	Presence
Dolphins		
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Breeding	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Calving	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Foraging	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Foraging (high density prey)	Known to occur

Scientific Name	Behaviour	Presence
-----------------	-----------	----------

[Orcaella heinsohni](#)

Australian Snubfin Dolphin [81322] Resting Known to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Breeding Known to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Breeding Likely to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Calving Known to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Calving Likely to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Foraging Known to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Foraging Likely to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Foraging (high density prey) Known to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Foraging (high density prey) Likely to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Significant habitat Known to occur

[Sousa chinensis](#)

Indo-Pacific Humpback Dolphin [50] Significant habitat - Likely to occur
unknown behaviour

[Tursiops aduncus](#)

Indo-Pacific/Spotted Bottlenose Dolphin [68418] Calving Known to occur

[Tursiops aduncus](#)

Indo-Pacific/Spotted Bottlenose Dolphin [68418] Foraging Known to occur

[Dugong](#) [Dugong dugon](#)

Dugong [28] Breeding Known to occur

Scientific Name	Behaviour	Presence
-----------------	-----------	----------

[Dugong dugon](#)

Dugong [28] Calving Known to occur

[Dugong dugon](#)

Dugong [28] Foraging Known to occur

[Dugong dugon](#)

Dugong [28] Foraging (high density seagrass beds) Known to occur

[Dugong dugon](#)

Dugong [28] Nursing Known to occur

Marine Turtles [Caretta caretta](#)

Loggerhead Turtle [1763]Foraging Known to occur

[Chelonia mydas](#)

Green Turtle [1765] Foraging Likely to occur

[Chelonia mydas](#)

Green Turtle [1765] Foraging Known to occur

[Chelonia mydas](#)

Green Turtle [1765] Internesting buffer Known to occur

[Chelonia mydas](#)

Green Turtle [1765] Internesting buffer Likely to occur

[Chelonia mydas](#)

Green Turtle [1765] Mating Likely to occur

[Chelonia mydas](#)

Green Turtle [1765] Nesting Known to occur

[Chelonia mydas](#)

Green Turtle [1765] Nesting Likely to occur

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766] Foraging Likely to occur

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766] Internesting buffer Likely to occur

Scientific Name	Behaviour	Presence
-----------------	-----------	----------

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766] Internesting buffer Known to occur

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766] Nesting Known to occur

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766] Nesting Likely to occur

[Lepidochelys olivacea](#)

Olive Ridley Turtle [1767]Foraging Known to occur

[Natator depressus](#)

Flatback Turtle [59257] Foraging Known to occur

[Natator depressus](#)

Flatback Turtle [59257] Internesting buffer Known to occur

[Natator depressus](#)

Flatback Turtle [59257] Nesting Known to occur

Seabirds [Ardenna pacifica](#)

Wedge-tailed Shearwater [84292] Breeding Known to occur

[Fregata ariel](#)

Lesser Frigatebird [1012] Breeding Known to occur

[Fregata minor](#)

Greater Frigatebird [1013] Breeding Known to occur

[Phaethon lepturus](#)

White-tailed Tropicbird [1014] Breeding Known to occur

[Sterna dougallii](#) Roseate Tern [817]

Breeding Known to occur

[Sternula albifrons sinensis](#) Little Tern [82850]

Breeding Known to occur

[Sternula albifrons sinensis](#) Little Tern [82850]

Resting Known to occur

Scientific Name	Behaviour	Presence
Sula leucogaster Brown Booby [1022]	Breeding	Known to occur
Sula sula Red-footed Booby [1023]	Breeding	Known to occur
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	Known to occur
Sharks Rhincodon typus Whale Shark [66680]	Foraging	Known to occur
Whales Balaenoptera musculus brevipinna Pygmy Blue Whale [81317]	Distribution	Known to occur
Balaenoptera musculus brevipinna Blue Whale [81317]	Pygmy Foraging	Known to occur
Balaenoptera musculus brevipinna Blue Whale [81317]	Pygmy Migration	Known to occur
Megaptera novaeangliae [38] Humpback Whale	Calving	Known to occur
Megaptera novaeangliae [38] Humpback Whale	Migration	Known to occur
Megaptera novaeangliae [38] Humpback Whale	Nursing	Known to occur
Megaptera novaeangliae [38] Humpback Whale	Resting	Known to occur

Caveat

PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

World and National Heritage properties;

Wetlands of International and National Importance;

Commonwealth and State/Territory reserves;

distribution of listed threatened, migratory and marine species;

listed threatened ecological communities; and

other information that may be useful as an indicator of potential habitat value.

DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

threatened species listed as extinct or considered vagrants;

some recently listed species and ecological communities;

some listed migratory and listed marine species, which are not listed as threatened species; and

migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

© [Commonwealth of Australia](#)
[Department of Climate Change, Energy, the Environment and Water](#) GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111



Australian Government

**Department of Climate Change, Energy,
the Environment and Water**

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 11-Jul-2024 [Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#) [Extra Information](#)

[Caveat](#) [Acknowledgements](#)

Figure 1: NMR PMST area



Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	3
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	82
Listed Migratory Species:	82

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	6
Commonwealth Heritage Places:	None
Listed Marine Species:	145
Whales and Other Cetaceans:	25
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	21
Habitat Critical to the Survival of Marine Turtles:	5

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	25
Regional Forest Agreements:	None
Nationally Important Wetlands:	7
EPBC Act Referrals:	80
Key Ecological Features (Marine):	10
Biologically Important Areas:	26
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Commonwealth Marine Area

[Resource Information]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name Commonwealth Marine Areas (EPBC Act)

Commonwealth Marine Areas (EPBC Act) Commonwealth Marine Areas (EPBC Act)

Listed Threatened Species

[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act. Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		

[Arenaria interpres](#)

Ruddy Turnstone [872] Vulnerable Roosting known to occur within area

[Calidris acuminata](#)

Sharp-tailed Sandpiper [874] Vulnerable Roosting known to occur within area

[Calidris canutus](#)

Red Knot, Knot [855] Vulnerable Species or species habitat known to occur within area

[Calidris ferruginea](#)

Curlew Sandpiper [856] Critically Endangered Species or species habitat known to occur within area

[Calidris tenuirostris](#)

Great Knot [862] Vulnerable Roosting known to occur within area

[Charadrius leschenaultii](#)

Greater Sand Plover, Large Sand Plover [877] Vulnerable Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Falcunculus frontatus whitei Crested Shrike-tit (northern), Northern Shrike-tit [26013]	Vulnerable	Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area
Geophaps smithii smithii Partridge Pigeon (eastern) [64441]	Vulnerable	Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area
Melanodryas cucullata melvillensis Tiwi Islands Hooded Robin, Hooded Robin (Tiwi Islands) [67092]	Critically Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
---	-----------------------	---

Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat likely to occur within area
---	------------	--

Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area
---	------------	-------------------------------------

Probosciger aterrimus macgillivrayi Palm Cockatoo (Australian) [67033]	Vulnerable	Species or species habitat likely to occur within area
---	------------	--

Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
--	------------	--

Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
---	------------	---

Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat known to occur within area
--	------------	---

Tyto novaehollandiae melvillensis Tiwi Masked Owl, Tiwi Islands Masked Owl [26049]	Endangered	Species or species habitat known to occur within area
---	------------	---

Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area
---	------------	-------------------------------------

FISH

Thunnus maccoyii Southern Bluefin Tuna [69402] Dependent	Conservation	Species or species habitat may occur within area
--	--------------	--

MAMMAL

Antechinus bellus Fawn Antechinus [344]	Vulnerable	Species or species habitat likely to occur within area
--	------------	--

Scientific Name	Threatened Category	Presence Text
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Conilurus penicillatus Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat known to occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area
Hipposideros semoni Semon's Leaf-nosed Bat, Greater Wart-nosed Horseshoe-bat [180]	Vulnerable	Species or species habitat may occur within area
Isoodon auratus auratus Golden Bandicoot (mainland) [66665]	Vulnerable	Species or species habitat known to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Mesembriomys gouldii gouldii Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga, Manbul [87618]	Endangered	Species or species habitat likely to occur within area
Mesembriomys gouldii melvillensis Black-footed Tree-rat (Melville Island) [87619]	Vulnerable	Species or species habitat known to occur within area
Mesembriomys gouldii rattoides Black-footed Tree-rat (north Queensland), Shaggy Rabbit-rat [87620]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Notomys aquilo](#)
 Northern Hopping-mouse, Woorentinta Endangered Species or species habitat may occur within area [123]

[Petrogale concinna canescens](#)
 Nabarlek (Top End) [87606] Endangered Species or species habitat may occur within area

[Phascogale pirata](#)
 Northern Brush-tailed Phascogale Vulnerable Species or species habitat likely to occur within area [82954]

[Rhinolophus robertsi](#)
 Large-eared Horseshoe Bat, Greater Vulnerable Species or species habitat may occur within area
 Large-eared Horseshoe Bat [87639]

[Saccolaimus saccolaimus nudicluniatus](#)
 Bare-rumped Sheath-tailed Bat, Bare-rumped Sheathtail Bat [66889] Vulnerable Species or species habitat likely to occur within area

[Sminthopsis butleri](#)
 Butler's Dunnart [302] Vulnerable Species or species habitat known to occur within area

[Trichosurus vulpecula arnhemensis](#)
 Northern Brushtail Possum [83091] Vulnerable Species or species habitat known to occur within area

[Xeromys myoides](#)
 Water Mouse, False Water Rat, Yirrkoo Vulnerable Species or species habitat known to occur within area [66]

PLANT
[Bruguiera x hainesii](#)
 Haines's Orange Mangrove [91351] Critically Endangered Species or species habitat may occur within area

[Burmannia championii listed as Burmannia sp. Bathurst Island \(R.Fensham 1021\)](#)
 [93461] Endangered (listed as Burmannia sp. Bathurst Island Species or species habitat likely to occur within area

[Calophyllum bicolor](#)
 [11371] Vulnerable Species or species habitat may occur within area

within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Dendrobium bigibbum](#)
Cooktown Orchid [10306]
Vulnerable
Species or species habitat likely to occur within area

[Dendrobium carronii listed as Cepobaculum carronii](#)
an orchid [10822]
Vulnerable
Species or species habitat likely to occur within area

[Dendrobium johannis](#)
Chocolate Tea Tree Orchid [13585]
Vulnerable
Species or species habitat likely to occur within area

[Elaeocarpus miegei](#)
[65147]
Endangered
Species or species habitat may occur within area

[Tarennoidea wallichii](#)
[65173]
Endangered
Species or species habitat likely to occur within area

[Typhonium jonesii](#)
a herb [62412]
Endangered
Species or species habitat likely to occur within area

[Typhonium mirabile](#)
a herb [79227]
Endangered
Species or species habitat likely to occur within area

[Vappodes phalaenopsis](#)
Cooktown Orchid [78894]
Vulnerable
Species or species habitat likely to occur within area

[Xylopia monosperma](#)
a shrub [82030]
Endangered
Species or species habitat likely to occur within area

REPTILE

[Acanthophis hawkei](#)
Plains Death Adder [83821]
Vulnerable
Species or species habitat likely to occur within area

[Aipysurus apraefrontalis](#)
Short-nosed Sea Snake, Short-nosed Seasnake [1115]
Critically Endangered
Species or species habitat likely to occur within area

within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Caretta caretta](#)

Loggerhead Turtle [1763]Endangered Foraging, feeding or related behaviour known to occur within area

[Chelonia mydas](#)

Green Turtle [1765] Vulnerable Breeding known to occur within area

[Cryptoblepharus gurrmul](#)

Arafura Snake-eyed Skink [83106] Endangered Species or species habitat known to occur within area

[Dermochelys coriacea](#)

Leatherback Turtle, Leathery Turtle, LuthEndangered Congregation or aggregation known to occur within area [1768]

[Egernia rugosa](#)

Yakka Skink [1420] Vulnerable Species or species habitat may occur within area

[Elseya lavarackorum](#)

Gulf Snapping Turtle [67197] Endangered Species or species habitat may occur within area

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766] Vulnerable Breeding known to occur within area

[Lepidochelys olivacea](#)

Olive Ridley Turtle, Pacific Ridley Turtle Endangered Breeding known to occur within area [1767]

[Natator depressus](#)

Flatback Turtle [59257] Vulnerable Breeding known to occur within area

[Tiliqua scincoides intermedia](#)

Northern Blue-tongued Skink [89838] Critically Endangered Species or species habitat likely to occur within area

[Varanus mertensi](#)

Mertens' Water Monitor, Mertens's Water Monitor [1568] Endangered Species or species habitat likely to occur within area

[Varanus mitchelli](#)

Mitchell's Water Monitor [1569] Critically Endangered Species or species habitat likely to occur within area

SHARK

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Carcharodon carcharias](#)

White Shark, Great White Shark [64470] Vulnerable Species or species habitat may occur within area

[Glyphis garricki](#)

Northern River Shark, New Guinea River Shark [82454] Endangered Species or species habitat known to occur within area

[Glyphis glyphis](#)

Speartooth Shark [82453] Critically Endangered Species or species habitat known to occur within area

[Pristis clavata](#)

Dwarf Sawfish, Queensland Sawfish [68447] Vulnerable Species or species habitat known to occur within area

[Pristis pristis](#)

Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756] Vulnerable Species or species habitat known to occur within area

[Pristis zijsron](#)

Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442] Vulnerable Species or species habitat known to occur within area

[Rhincodon typus](#)

Whale Shark [66680] Vulnerable Species or species habitat may occur within area

[Sphyrna lewini](#)

Scalloped Hammerhead [85267] Dependent Conservation Species or species habitat known to occur within area

Listed Migratory Species	[Resource Information]	
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		

[Anous stolidus](#)

Common Noddy [825] Foraging, feeding or related behaviour known to occur within area

[Apus pacificus](#)

Fork-tailed Swift [678] Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Calonectris leucomelas](#)

Streaked Shearwater [1077] Species or species habitat known to occur within area

[Fregata ariel](#)

Lesser Frigatebird, Least Frigatebird [1012] Breeding known to occur within area

[Fregata minor](#)

Great Frigatebird, Greater Frigatebird [1013] Breeding known to occur within area

[Onychoprion anaethetus](#)

Bridled Tern [82845] Breeding known to occur within area

[Phaethon lepturus](#)

White-tailed Tropicbird [1014] Species or species habitat may occur within area

[Sterna dougallii](#)

Roseate Tern [817] Breeding known to occur within area

[Sterna sumatrana](#)

Black-naped Tern [800] Breeding known to occur within area

[Sternula albifrons](#)

Little Tern [82849] Breeding known to occur within area

[Sula leucogaster](#)

Brown Booby [1022] Breeding known to occur within area

Migratory Marine Species [Anoxypristis cuspidata](#)

Narrow Sawfish, Knifetooth Sawfish [68448] Species or species habitat known to occur within area

[Balaenoptera borealis](#)

Sei Whale [34] Vulnerable Species or species habitat likely to occur within area

[Balaenoptera edeni](#)

Bryde's Whale [35] Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Congregation or aggregation known to occur within area
Dugong dugon Dugong [28]		Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding known to occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Rhincodon typus](#)

Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
---------------------	------------	--

[Sousa sahalensis as Sousa chinensis](#)

Australian Humpback Dolphin [87942]	Breeding known to occur within area
-------------------------------------	-------------------------------------

[Tursiops aduncus \(Arafura/Timor Sea populations\)](#)

Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]	Species or species habitat known to occur within area
--	---

Migratory Terrestrial Species [Cecropis daurica](#)

Red-rumped Swallow [80610]	Species or species habitat known to occur within area
----------------------------	---

[Cuculus optatus](#)

Oriental Cuckoo, Horsfield's Cuckoo [86651]	Species or species habitat may occur within area
---	--

[Hirundapus caudacutus](#)

White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area
---------------------------------	------------	--

[Hirundo rustica](#)

Barn Swallow [662]	Species or species habitat may occur within area
--------------------	--

[Monarcha melanopsis](#)

Black-faced Monarch [609]	Species or species habitat may occur within area
---------------------------	--

[Motacilla cinerea](#)

Grey Wagtail [642]	Species or species habitat may occur within area
--------------------	--

[Motacilla flava](#)

Yellow Wagtail [644]	Species or species habitat likely to occur within area
----------------------	--

[Myiagra cyanoleuca](#)

Satin Flycatcher [612]	Species or species habitat likely to occur within area
------------------------	--

Scientific Name	Threatened Category	Presence Text
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]		
Migratory Wetlands Species Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat may occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Roosting may occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area
Numenius madagascariensis Curlew, Far Eastern Curlew [847]	Eastern Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Lands

[Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State
Attorney-General - Australian Government Solicitor	
Commonwealth Land - Australian Government Solicitor [70332]	NT
Defence	Defence - MT GOODWIN RADAR SITE [70063] NT
Defence - QUAIL ISLAND BOMBING RANGE [70003] NT	

Commonwealth Land Name	State
------------------------	-------

Defence - RIMBIJA ISLAND RAAF RADIO BEACON [70074]NT

Unknown

Commonwealth Land - [71140]NT

Commonwealth Land - [70995]NT

Listed Marine Species	[Resource Information]
-----------------------	--------------------------

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

Bird

[Acrocephalus orientalis](#)

Oriental Reed-Warbler [59570]Species or species habitat may occur within area overfly marine area

[Actitis hypoleucos](#)

Common Sandpiper [59309]Species or species habitat known to occur within area

[Anous stolidus](#)

Common Noddy [825]Foraging, feeding or related behaviour known to occur within area

[Anseranas semipalmata](#)

Magpie Goose [978]Species or species habitat may occur within area overfly marine area

[Apus pacificus](#)

Fork-tailed Swift [678]Species or species habitat likely to occur within area overfly marine area

[Arenaria interpres](#)

Ruddy Turnstone [872]VulnerableRoosting known to occur within area

[Bubulcus ibis as Ardea ibis](#)

Cattle Egret [66521]Species or species habitat may occur within area overfly marine area

[Calidris acuminata](#)

Sharp-tailed Sandpiper [874]VulnerableRoosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area overfly marine area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area overfly marine area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Cecropis daurica as Hirundo daurica Red-rumped Swallow [80610]		Species or species habitat known to occur within area overfly marine area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area
overfly marine area		
Charadrius veredus Oriental Plover, Oriental Dotterel [882]	Roosting may occur within area	overfly marine area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area overfly marine area
Gallinago megala Swinhoe's Snipe [864]	Roosting likely to occur within area	overfly marine area
Gallinago stenura Pin-tailed Snipe [841]	Roosting likely to occur within area	overfly marine area
Glareola maldivarum Oriental Pratincole [840]	Roosting may occur within area	overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]	Species or species habitat known to occur within area	
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]	Roosting known to occur within area	overfly marine area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area overfly
		marine area

Scientific Name	Threatened Category	Presence Text
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area overfly marine area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area overfly marine area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat likely to occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area overfly marine area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat may occur within area overfly marine area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area overfly marine area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Numenius madagascariensis](#)
 Eastern Curlew, Far Eastern Curlew [847]
 Critically Endangered
 Species or species habitat known to occur within area

[Numenius minutus](#)
 Little Curlew, Little Whimbrel [848]
 Roosting known to occur within area overfly marine area

[Numenius phaeopus](#)
 Whimbrel [849]Roosting known to occur within area

[Onychoprion anaethetus as Sterna anaethetus](#)
 Bridled Tern [82845]
 Breeding known to occur within area

[Pandion haliaetus](#)
 Osprey [952]
 Species or species habitat known to occur within area

[Phaethon lepturus](#)
 White-tailed Tropicbird [1014]
 Species or species habitat may occur within area

[Pluvialis fulva](#)
 Pacific Golden Plover [25545]
 Roosting known to occur within area

[Pluvialis squatarola](#)
 Grey Plover [865]
 Vulnerable
 Roosting known to occur within area overfly marine area

[Recurvirostra novaehollandiae](#)
 Red-necked Avocet [871]Roosting known to occur within area overfly marine area

[Rhipidura rufifrons](#)
 Rufous Fantail [592]Species or species habitat likely to occur within area overfly marine area

[Rostratula australis as Rostratula benghalensis \(sensu lato\)](#)
 Australian Painted Snipe [77037]
 Endangered
 Species or species habitat likely to occur within area overfly marine area

[Sterna dougallii](#)
 Roseate Tern [817]
 Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Sterna sumatrana Black-naped Tern [800]	Breeding known to occur within area	
Sternula albifrons as Sterna albifrons Little Tern [82849]	Breeding known to occur within area	
Stiltia isabella Australian Pratincole [818]	Roosting known to occur within area	overfly marine area
Sula leucogaster Brown Booby [1022]	Breeding known to occur within area	
Symposiachrus trivirgatus as Monarcha trivirgatus Spectacled Monarch [83946]	Species or species habitat known to occur within area	overfly marine area
Thalasseus bengalensis as Sterna bengalensis Lesser Crested Tern [66546]	Breeding known to occur within area	
Thalasseus bergii as Sterna bergii Greater Crested Tern [83000]	Breeding known to occur within area	
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]	Roosting known to occur within area	
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area overfly marine area
Fish Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Bhanotia fasciolata](#)
Corrugated Pipefish, Barbed Pipefish
[66188]

Species or species habitat may occur within area

[Campichthys tricarinatus](#)
Three-keel Pipefish [66192]

Species or species habitat may occur within area

[Choeroichthys brachysoma](#)
Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]

Species or species habitat may occur within area

[Choeroichthys suillus](#)
Pig-snouted Pipefish [66198]

Species or species habitat may occur within area

[Corythoichthys amplexus](#)
Fijian Banded Pipefish, Brown-banded Pipefish [66199]

Species or species habitat may occur within area

[Corythoichthys flavofasciatus](#)
Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]

Species or species habitat may occur within area

[Corythoichthys haematopterus](#)
Reef-top Pipefish [66201]

Species or species habitat may occur within area

[Corythoichthys intestinalis](#)
Australian Messmate Pipefish, Banded Pipefish [66202]

Species or species habitat may occur within area

[Corythoichthys ocellatus](#)
Orange-spotted Pipefish, Ocellated Pipefish [66203]

Species or species habitat may occur within area

[Corythoichthys schultzi](#)
Schultz's Pipefish [66205]

Species or species habitat may occur within area

[Cosmocampus banneri](#)
Roughridge Pipefish [66206]

Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Cosmocampus maxweberi](#)

Maxweber's Pipefish [66209] Species or species habitat may occur within area

[Doryrhamphus dactyliophorus](#)

Banded Pipefish, Ringed Pipefish [66210] Species or species habitat may occur within area

[Doryrhamphus excisus](#)

Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211] Species or species habitat may occur within area

[Doryrhamphus janssi](#)

Cleaner Pipefish, Janss' Pipefish [66212] Species or species habitat may occur within area

[Festucalex cinctus](#)

Girdled Pipefish [66214] Species or species habitat may occur within area

[Filicampus tigris](#)

Tiger Pipefish [66217] Species or species habitat may occur within area

[Halicampus brocki](#)

Brock's Pipefish [66219] Species or species habitat may occur within area

[Halicampus dunckeri](#)

Red-hair Pipefish, Duncker's Pipefish [66220] Species or species habitat may occur within area

[Halicampus grayi](#)

Mud Pipefish, Gray's Pipefish [66221] Species or species habitat may occur within area

[Halicampus macrorhynchus](#)

Whiskered Pipefish, Ornate Pipefish [66222] Species or species habitat may occur within area

[Halicampus spinirostris](#)

Spiny-snout Pipefish [66225] Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys heptagonus Madura Pipefish, Reticulated Freshwater Pipefish [66229]		Species or species habitat may occur within area
Hippichthys parvicarinatus Short-keel Pipefish, Short-keeled Pipefish [66230]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippichthys spicifer Belly-barred Pipefish, Banded Freshwater Pipefish [66232]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]	Species or species habitat may occur within area	
Hippocampus spinosissimus Hedgehog Seahorse [66239]	Species or species habitat may occur within area	

Scientific Name	Threatened Category	Presence Text
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area
Hippocampus zebra Zebra Seahorse [66241]		Species or species habitat may occur within area
Micrognathus brevirostris thorntail Pipefish, Thorn-tailed Pipefish [66254]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Microphis brachyurus Short-tail Pipefish, Short-tailed River Pipefish [66257]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammal		

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Dugong dugon](#)

Dugong [28] Species or species habitat known to occur within area

Reptile [Aipysurus apraefrontalis](#)

Short-nosed Sea Snake, Short-nosed
Seasnake [1115] Critically Endangered Species or species
habitat likely to occur within area

[Aipysurus duboisii](#)

Dubois' Sea Snake, Dubois' Seasnake,
Reef Shallows Sea Snake [1116] Species or species habitat may occur within
area

[Aipysurus laevis](#)

Olive Sea Snake, Olive-brown Sea
Snake [1120] Species or species habitat may occur within
area

[Aipysurus mosaicus as Aipysurus eydouxii](#)

Mosaic Sea Snake [87261] Species or species habitat may occur within area

[Caretta caretta](#)

Loggerhead Turtle [1763]Endangered Foraging, feeding or related behaviour known to occur within area

[Chelonia mydas](#)

Green Turtle [1765] Vulnerable Breeding known to occur within area

[Crocodylus johnstoni](#)

Freshwater Crocodile, Johnston's
Crocodile, Johnstone's Crocodile [1773] Species or species habitat may occur within
area

[Crocodylus porosus](#)

Salt-water Crocodile, Estuarine
Crocodile [1774] Species or species habitat likely to occur
within area

[Dermochelys coriacea](#)

Leatherback Turtle, Leathery Turtle, LuthEndangered Congregation or aggregation known to occur within area
[1768]

[Emydocephalus annulatus](#) Eastern

Turtle-headed Sea Snake [1125] Species or species habitat may occur within
area

Scientific Name	Threatened Category	Presence Text
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Sea Snake [1101]	Species or species habitat may occur within area	
Hydrophis caeruleus Dwarf Sea Snake [1103]	Species or species habitat may occur within area	
Hydrophis coggeri Cogger's Sea Snake [25925]	Species or species habitat may occur within area	
Hydrophis czeblukovi Fine-spined Sea Snake [59233]	Species or species habitat may occur within area	
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]	Species or species habitat may occur within area	
Hydrophis inornatus Plain Sea Snake [1107]	Species or species habitat may occur within area	
Hydrophis kingii as Distaira kingii Spectacled Sea Snake [93511]	Species or species habitat may occur within area	
Hydrophis macdowelli as Hydrophis mcdowelli MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Hydrophis major as Disteira major](#)

Olive-headed Sea Snake [93512] Species or species habitat may occur within area

[Hydrophis melanosoma](#)

Black-banded Robust Sea Snake [1109] Species or species habitat may occur within area

[Hydrophis ornatus](#)

Spotted Sea Snake, Ornate Reef Sea Snake [1111] Species or species habitat may occur within area

[Hydrophis pacificus](#)

Pacific Sea Snake, Large-headed Sea Snake [1112] Species or species habitat may occur within area

[Hydrophis peronii as Acalyptophis peronii](#)

Horned Sea Snake [93509] Species or species habitat may occur within area

[Hydrophis platura as Pelamis platurus](#)

Yellow-bellied Sea Snake [93746] Species or species habitat may occur within area

[Hydrophis stokesii as Astrotia stokesii](#)

Stokes' Sea Snake [93510] Species or species habitat may occur within area

[Hydrophis vorisi](#)

Estuarine Sea Snake [25927] Species or species habitat may occur within area

[Hydrophis zweiffei as Enhydrina schistosa](#)

Australian Beaked Sea Snake [93514] Species or species habitat may occur within area

[Laticauda colubrina](#)

Yellow-lipped Sea Krait [1092] Species or species habitat may occur within area

[Laticauda laticaudata](#)

a sea krait [1093] Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Lepidochelys olivacea](#)

Olive Ridley Turtle, Pacific Ridley Turtle Endangered Breeding known to occur within area [1767]

[Microcephalophis gracilis as Hydrophis gracilis](#)

Graceful Small-headed Sea Snake, Species or species habitat may occur within
Slender Sea Snake [87375] area

[Natator depressus](#)

Flatback Turtle [59257] Vulnerable Breeding known to occur within area

[Parahydrophis mertoni](#)

Arafura Smooth Sea Snake, Northern Species or species habitat may occur within
Mangrove Sea Snake [1090] area

Whales and Other Cetaceans

[Resource Information]

Current Scientific Name	Status	Type of Presence
Mammal		

[Balaenoptera borealis](#)

Sei Whale [34] Vulnerable Species or species habitat likely to occur within area

[Balaenoptera edeni](#)

Bryde's Whale [35] Species or species habitat may occur within area

[Balaenoptera musculus](#)

Blue Whale [36] Endangered Species or species habitat likely to occur within area

[Balaenoptera physalus](#)

Fin Whale [37] Vulnerable Species or species habitat likely to occur within area

[Delphinus delphis](#)

Common Dolphin, Short-beaked Species or species habitat may occur within
Common Dolphin [60] area

[Feresa attenuata](#)

Pygmy Killer Whale [61] Species or species habitat may occur within area

[Globicephala macrorhynchus](#)

Short-finned Pilot Whale [62] Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
-------------------------	--------	------------------

[Grampus griseus](#)

Risso's Dolphin, Grampus [64]Species or species habitat may occur within area

[Kogia breviceps](#)

Pygmy Sperm Whale [57]Species or species habitat may occur within area

[Kogia sima](#)

Dwarf Sperm Whale [85043]Species or species habitat may occur within area

[Megaptera novaeangliae](#)

Humpback Whale [38]Species or species habitat likely to occur within area

[Orcaella heinsohni](#)

Australian Snubfin Dolphin [81322]Species or species habitat known to occur within area

[Orcinus orca](#)

Killer Whale, Orca [46]Species or species habitat may occur within area

[Peponocephala electra](#)

Melon-headed Whale [47]Species or species habitat may occur within area

[Physeter macrocephalus](#)

Sperm Whale [59]Species or species habitat may occur within area

[Pseudorca crassidens](#)

False Killer Whale [48]Species or species habitat likely to occur within area

[Sousa sahulensis](#)

Australian Humpback Dolphin [87942]Breeding known to occur within area

[Stenella attenuata](#)

Spotted Dolphin, Pantropical Spotted Dolphin [51]Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]	Species or species habitat may occur within area	
Steno bredanensis Rough-toothed Dolphin [30]	Species or species habitat may occur within area	
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]	Species or species habitat may occur within area	
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Australian Marine Parks		[Resource Information]
Park Name	Zone & IUCN Categories	
Limmen	Habitat Protection Zone (IUCN IV)	
Oceanic Shoals	Habitat Protection Zone (IUCN IV)	
Wessel	Habitat Protection Zone (IUCN IV)	
West Cape York	Habitat Protection Zone (IUCN IV)	
Arafura	Multiple Use Zone (IUCN VI)	
Joseph Bonaparte Gulf	Multiple Use Zone (IUCN VI)	

Oceanic Shoals	Multiple Use Zone (IUCN VI)
----------------	-----------------------------

Park Name		Zone & IUCN Categories
Oceanic Shoals	Multiple Use Zone (IUCN VI)	
Gulf of Carpentaria	National Park Zone (IUCN II)	
Oceanic Shoals	National Park Zone (IUCN II)	
West Cape York	National Park Zone (IUCN II)	
West Cape York	National Park Zone (IUCN II)	
Arafura	Special Purpose Zone (IUCN VI)	
Arnhem	Special Purpose Zone (IUCN VI)	
Joseph Bonaparte Gulf	Special Purpose Zone (IUCN VI)	
West Cape York	Special Purpose Zone (IUCN VI)	
Arafura	Special Purpose Zone (Trawl) (IUCN VI)	
Gulf of Carpentaria	Special Purpose Zone (Trawl) (IUCN VI)	
Gulf of Carpentaria	Special Purpose Zone (Trawl) (IUCN VI)	
Oceanic Shoals	Special Purpose Zone (Trawl) (IUCN VI)	
Wessel	Special Purpose Zone (Trawl) (IUCN VI)	

Habitat Critical to the Survival of Marine Turtles			[Resource Information]
Scientific Name	Behaviour	Presence	
Aug - Sep			

[Natator depressus](#)

Flatback Turtle [59257] Nesting Known to occur

Dec - Jan [Chelonia mydas](#)

Green Turtle [1765] Nesting Known to occur

[Dermochelys coriacea](#)

Leatherback Turtle [1768] Nesting Known to occur

May - Jul			
-----------	--	--	--

Scientific Name	Behaviour	Presence
-----------------	-----------	----------

[Lepidochelys olivacea](#)

Olive Ridley Turtle [1767]Nesting Known to occur

Nov - May

[Eretmochelys imbricata](#)

Hawksbill Turtle [1766] Nesting Known to occur

Extra Information

State and Territory Reserves		[<u>Resource Information</u>]
Protected Area Name	Reserve Type	State
Anindilyakwa	Indigenous Protected Area	NT
Anindilyakwa	Indigenous Protected Area	NT
Barranyi (North Island)	National Park	NT
Crocodile Islands Maringa	Indigenous Protected Area	NT
Crocodile Islands Maringa	Indigenous Protected Area	NT
Dhimurru	Indigenous Protected Area	NT
Djelk	Indigenous Protected Area	NT
Djelk - Stage 2	Indigenous Protected Area	NT
Eight Mile Creek	Fish Habitat Area (A)	QLD
Finucane Island	National Park	QLD
Garig Gunak Barlu	Marine Park	NT
Keep River	Proposed National Parks ActNT park or park addition	
Limmen	National Park	NT
Limmen Bight	Marine Park	NT
Marthakal	Indigenous Protected Area	NT
Morning Inlet - Bynoe River	Fish Habitat Area (A)	QLD

Protected Area Name	Reserve Type	State
Nassau River Fish Habitat Area (A)	QLD	
Nijinda Durlga Indigenous Protected Area		QLD
Pine River Bay Fish Habitat Area (A)	QLD	
Pungalina - Seven Emu Private Nature Reserve	NT	
Rutland Plains Nature Refuge	QLD	
South-East Arnhem Land Indigenous Protected Area	NT	
Thuwathu/Bujimulla Indigenous Protected Area		QLD
Thuwathu/Bujimulla Indigenous Protected Area		QLD
Yanyuwa (Barni - Wardimantha Awara) Area	Indigenous Protected Area	NT

Nationally Important Wetlands		[Resource Information]
Wetland Name		State
Cobourg Peninsula System	NT	
Finniss Floodplain and Fog Bay Systems	NT	
Jardine River Wetlands Aggregation	QLD	
Limmen Bight (Port Roper) Tidal Wetlands System	NT	
Northeast Karumba Plain Aggregation	QLD	
Southeast Karumba Plain Aggregation	QLD	
Southern Gulf Aggregation	QLD	

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	
Arnhem Space Centre Operations (Down Range Recovery)	2023/09657	Assessment		
Aurukun Bauxite Project	2020/8624	Assessment		
Darwin Pipeline Duplication (DPD) Project	2022/09372	Post-Approval		
Darwin Pipeline Duplication DPD Project	2022/9166	Completed		

Title of referral	Reference	Referral Outcome	Assessment Status
Marine Route Survey for Subsea Fibre Optic Data Cable System - Australia West	2024/09826	Completed	
Tiwi H2 Project	2022/09347	Assessment	
Controlled action			
Andranangoo Creek & Lethbridge Bay mineral sand mining	2005/2155	Controlled Action	Completed
Bauxite Hill Mining and Barging Project	2015/7538	Controlled Action	Post-Approval
Bauxite Hills Mine and Port Project	2012/6246	Controlled Action	Completed
Blacktip Project - Wharf Construction	2007/3293	Controlled Action	Completed
Bonaparte Liquified Natural Gas Project	2011/6141	Controlled Action	Post-Approval
Darwin to Moomba Gas Pipeline	2001/213	Controlled Action	Completed
Development of Blacktip Gas Field	2003/1180	Controlled Action	Post-Approval
Hardwood Plantation	2001/229	Controlled Action	Post-Approval
Ichthys Gas Field, Offshore and onshore processing facilities and subsea pipeline	2008/4208	Controlled Action	Post-Approval
Pisolite Hills bauxite mine and associated infrast	2008/4046	Controlled Action	Completed
PNG-Qld Gas Pipeline - Gove Lateral	2006/2615	Controlled Action	Completed
Roper Bar Iron Ore Mine and Transport Infrastructure	2011/6079	Controlled Action	Completed
Shipping Channel Enhancement	2010/5431	Controlled Action	Completed
Snake Bay Barramundi Sea Cage Farm	2005/2150	Controlled Action	Completed
South of the Embley Bauxite Mine Extension, including Construction of Port and Infrastructure	2008/4435	Controlled Action	Completed
South of the Embley Bauxite Mining Project	2010/5642	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Tassie Shoal Gas Reforming and Methanol Production Plants - NT/P48	2000/108	Controlled Action	Post-Approval
Tassie Shoal LNG Project	2003/1067	Controlled Action	Post-Approval
Trans-territory Gas Pipeline	2003/1186	Controlled Action	Completed
Not controlled action			
2D seismic survey, exploration permit NT/P67	2004/1587	Not Action	ControlledCompleted
2D Seismic Survey in Permit Areas WA-318-P & WA-319-P, near Cape Londonderry	2004/1687	Not Action	ControlledCompleted
Barossa-1 (NT/P69), Caldita-2 (NT/P61) exploration wells	2006/2793	Not Action	ControlledCompleted
Caldita-1 Hydrocarbon Exploration Well, NT/P61	2004/1854	Not Action	ControlledCompleted
Construction and operation of Radar Infrastructure	2004/1406	Not Action	ControlledCompleted
Cox Peninsular Remediation Project, NT	2015/7587	Not Action	ControlledCompleted
Dredging of Weipa South Channel	2003/1311	Not Action	ControlledCompleted
Eastern Leases 2010 Exploration Drilling Program	2010/5455	Not Action	ControlledCompleted
Geo-scientific survey	2005/2004	Not Action	ControlledCompleted
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Action	ControlledCompleted
Marine Survey for the Australia-ASEAN Power Link AAPL	2020/8714	Not Action	ControlledCompleted
Nexus Drilling Program NT-P66	2007/3745	Not Action	ControlledCompleted
NT/P68 2007 Two Well Drilling Program	2007/3569	Not Action	ControlledCompleted
Not controlled action (particular manner)			
2D and 3D Seismic Survey Action (Particular Manner)	2011/6197	Not Controlled	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
2D Marine Seismic Survey Action (Particular Manner)	2009/4728	Not Controlled	Post-Approval
2D marine seismic survey of Braveheart,Kurrajong,Sunshine and Crocodile	2006/2917	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic survey Manner)	2009/5076	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey, Permit Area Q23P	2009/4925	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey in WA Permit Area TP/22 and Commonwealth Permit Area WA-280-P	2005/2100	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey - Petroleum Exploration Area NT/P68, Eastern Bonaparte Basin	2006/2922	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey Action (Particular Manner)	2009/4681	Not Controlled	Post-Approval
3D Seismic Survey Manner)	2006/2729	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey (NT/P68) Action (Particular Manner)	2006/2980	Not Controlled	Post-Approval
3D Seismic Survey (NT/P68) Action (Particular Manner)	2008/4121	Not Controlled	Post-Approval
Bonaparte 2D & 3D marine seismic survey	2011/5962	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte 3D & 2D Seismic Survey, in NT/P82, Timor Sea	2012/6398	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Manner)			
Bonaparte Basin Barossa Appraisal Drilling Campaign, NT	2012/6481	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte Basin Seabed Mapping Survey	2009/4951	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte Seismic and Bathymetric Survey	2012/6295	Not Controlled Action (Particular Manner)	Post-Approval
Caldita 3D Marine Seismic Survey - NT/P61, NT/P69, and acreage release area NT06-5	2006/3142	Not Controlled Action (Particular Manner)	Post-Approval
Dredging the outer shipping channels of Darwin Harbour	2013/6988	Not Controlled Action (Particular Manner)	Post-Approval
Eni Bathurst 3D Seismic Survey Action (Particular Manner)	2011/6118	Not Controlled	Post-Approval
Exploration Drilling in Permit Areas WA-402-P & WA-403-P	2010/5297	Not Controlled Action (Particular Manner)	Post-Approval
Joseph Bonaparte Gulf Seabed mapping survey	2010/5517	Not Controlled Action (Particular Manner)	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Malita West 3D Seismic Survey WA-402-P and WA-403-P	2007/3936	Not Controlled Action (Particular Manner)	Post-Approval
Marine Environmental Survey 2012 Action (Particular Manner)	2012/6310	Not Controlled	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Nova 3D Seismic Survey 2013/6825 Action (Particular Manner)	2013/6825	Not Controlled	Post-Approval
NT/P74 & NT/P75 - 2D marine seismic survey	2008/4316	Not Controlled Action (Particular Manner)	Post-Approval
NT/P77 3D Marine Seismic Survey 2009/4683 Action (Particular Manner)	2009/4683	Not Controlled	Post-Approval
NT/P80 2010 2D Marine Seismic Survey	2010/5487	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to Darwin NT	2014/7223	Not Controlled Action (Particular Manner)	Post-Approval
Panda NT/P76 3D Seismic Acquisition Survey Program	2009/4992	Not Controlled Action (Particular Manner)	Post-Approval
Petrel MC2D Marine Seismic Survey 2010/5368 Action (Particular Manner)	2010/5368	Not Controlled	Post-Approval
Removal of Potential Unexploded Ordnance within NAXA	2012/6503	Not Controlled Action (Particular Manner)	Post-Approval
Santos Petrel-7 Offshore Appraisal Drilling Programme (Bonaparte Basin)	2011/5934	Not Controlled Action (Particular Manner)	Post-Approval
Sonar and Acoustic Trials 2001/345 (Particular Manner)	2001/345	Not Controlled Action	Post-Approval
Sunshine Infill 2D and Mimosa 2D Marine Seismic Surveys	2009/4699	Not Controlled Action (Particular Manner)	Post-Approval
Two dimensional (2d) seismic survey in Gulf of Carpentaria	2013/6991	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)		Manner)	
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Action Manner)	ControlledPost-Approval (Particular

Referral decision			
2D Marine Seismic Survey	2008/4623	Referral Decision	Completed
3D Seismic Survey (NT/P68)	2006/2949	Referral Decision	Completed
Capital Dredging Weipa South	2003/1302	Channel	Referral Decision Completed
Groote Eylandt Offshore Marine Surveys	2010/5643	Referral Decision	Completed
Nova 3D Seismic Survey, WA 442-NT/P81, Joseph Bonaparte Gulf	2013/6820	Referral Decision	Completed

Key Ecological Features

[[Resource Information](#)]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Carbonate bank and terrace system of the Sahul Shelf	North-west
Carbonate bank and terrace system of the Van Diemen Rise	North
Gulf of Carpentaria basin	North
Gulf of Carpentaria coastal zone	North
Pinnacles of the Bonaparte Basin	North-west
Pinnacles of the Bonaparte Basin	North
Plateaux and saddle north-west of the Wellesley Islands	North
Shelf break and slope of the Arafura Shelf	North
Submerged coral reefs of the Gulf of Carpentaria	North
Tributary Canyons of the Arafura Depression	North

Biologically Important Areas

[[Resource Information](#)]

Scientific Name	Behaviour	Presence
Dolphins		
Sousa chinensis		
Indo-Pacific Humpback Dolphin [50]	Breeding	Known to occur
Sousa chinensis		
Indo-Pacific Humpback Dolphin [50]	Foraging	Likely to occur
Tursiops aduncus		
Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Likely to occur
Marine Turtles Caretta caretta		
Loggerhead Turtle [1763]Foraging		Known to occur
Chelonia mydas		
Green Turtle [1765] Foraging		Likely to occur
Chelonia mydas		
Green Turtle [1765] Foraging		Known to occur
Chelonia mydas		
Green Turtle [1765] Internesting		Likely to occur
Dermochelys coriacea		
Leatherback Turtle [1768]	Internesting	Likely to occur
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Internesting	Likely to occur
Lepidochelys olivacea		
Olive Ridley Turtle [1767]Foraging		Likely to occur
Lepidochelys olivacea		
Olive Ridley Turtle [1767]Foraging		Known to occur
Lepidochelys olivacea		
Olive Ridley Turtle [1767]Internesting		Likely to occur
Natator depressus		
Flatback Turtle [59257]	Foraging	Known to occur
Natator depressus		
Flatback Turtle [59257]	Internesting	Likely to occur
Natator depressus		
Flatback Turtle [59257]	Internesting buffer	Known to occur

Seabirds

Scientific Name	Behaviour	Presence
Anous stolidus Common Noddy [825]	Breeding	Known to occur
Fregata ariel Lesser Frigatebird [1012]	Breeding	Known to occur
Fregata ariel Lesser Frigatebird [1012]	Foraging	Likely to occur
Onychoprion anaethetus Bridled Tern [82845]	Breeding	Known to occur
Onychoprion anaethetus Bridled Tern [82845]	Breeding (high numbers)	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding (high numbers)	Known to occur
Sula leucogaster Brown Booby [1022]	Breeding	Known to occur
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	Known to occur
Thalasseus bergii Crested Tern [83000]	Breeding	Known to occur
Thalasseus bergii Crested Tern [83000]	Breeding (high numbers)	Known to occur

Caveat

PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

World and National Heritage properties;

Wetlands of International and National Importance;

Commonwealth and State/Territory reserves;

distribution of listed threatened, migratory and marine species;

listed threatened ecological communities; and

other information that may be useful as an indicator of potential habitat value.

DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

threatened species listed as extinct or considered vagrants;

some recently listed species and ecological communities;

some listed migratory and listed marine species, which are not listed as threatened species; and

migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

[© Commonwealth of Australia](#)
[Department of Climate Change, Energy, the Environment and Water](#) GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 10-Jun-2024 [Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#) [Extra Information](#)

[Caveat](#) [Acknowledgements](#)

Figure 1: SWMR PMST sub area 1 (labelled '2')



Summary

Matters of National Environment Significance This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	1
National Heritage Places:	3
Wetlands of International Importance (Ramsar	6
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	3
Listed Threatened Ecological Communities:	9
Listed Threatened Species:	141
Listed Migratory Species:	84

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	240
Commonwealth Heritage Places:	4
Listed Marine Species:	123
Whales and Other Cetaceans:	39
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	29
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	63
Regional Forest Agreements:	1
Nationally Important Wetlands:	5
EPBC Act Referrals:	131
Key Ecological Features (Marine):	11
Biologically Important Areas:	33
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties			[Resource Information]
Name	State	Legal Status	
Australian Convict Sites (Fremantle Prison)	WA	Declared property	

National Heritage Places			[Resource Information]
Name	State	Legal Status	
Historic			
Fremantle Prison (former)	WA	Listed place	
Indigenous			
Cheetup Rock Shelter	WA	Listed place	
Natural			
Fitzgerald River National Park	WA	Listed place	

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name		Proximity
Becher point wetlands		Within Ramsar site
Forrestdale and thomsons lakes		Within 10km of Ramsar site
Lake gore		Within Ramsar site
Lake warden system		Within 10km of Ramsar site
Peel-yalgorup system		Within Ramsar site
Vasse-wonnerup system		Within Ramsar site

Commonwealth Marine Area	[Resource Information]
Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.	
Feature Name	
Commonwealth Marine Areas (EPBC Act)	Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)	Commonwealth Marine Areas (EPBC Act)

Listed Threatened Ecological Communities

[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Aquatic Root Mat Community 3 in Caves of the Leeuwin Naturaliste Ridge	Endangered	Community known to occur within area
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area
Empodisma peatlands of southwestern Australia	Endangered	Community likely to occur within area
Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion	Critically Endangered	Community likely to occur within area
Proteaceae Dominated Kwongan Shrublands of the Southeast Coastal Floristic Province of Western Australia	Endangered	Community likely to occur within area
Sedgeland in Holocene dune swales of the southern Swan Coastal Plain	Endangered	Community known to occur within area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area
Thrombolite (microbial) community of coastal freshwater lakes of the Swan Coastal Plain (Lake Richmond)	Endangered	Community known to occur within area
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area

Listed Threatened Species

[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act. Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Atrichornis clamosus Noisy Scrub-bird, Tjimiluk [654]	Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
Cereopsis novaehollandiae grisea Cape Barren Goose (south-western), Recherche Cape Barren Goose [25978]	Vulnerable	Breeding known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Dasyornis longirostris Western Bristlebird [515]	Endangered	Species or species habitat known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat likely to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Limosa limosa](#)

Black-tailed Godwit [845] Endangered Roosting known to occur within area

[Macronectes giganteus](#)

Southern Giant-Petrel, Southern Giant Endangered Species or species habitat may occur within area
Petrel [1060]

[Macronectes halli](#)

Northern Giant Petrel [1061] Vulnerable Foraging, feeding or related behaviour likely to occur within area

[Numenius madagascariensis](#) Eastern

Curlew, Far Eastern Curlew [847] Critically Endangered Species or species habitat known to occur within area

[Pachyptila turtur subantarctica](#)

Fairy Prion (southern) [64445] Vulnerable Species or species habitat known to occur within area

[Pezoporus flaviventris](#)

Western Ground Parrot, Kyloring [84650] Critically Endangered Species or species habitat may occur within area

[Phaethon rubricauda westralis](#)

Red-tailed Tropicbird (Indian Ocean), Endangered Species or species habitat known to occur within area
Indian Ocean Red-tailed Tropicbird
[91824]

[Phoebetria fusca](#)

Sooty Albatross [1075] Vulnerable Species or species habitat likely to occur within area

[Pluvialis squatarola](#)

Grey Plover [865] Vulnerable Roosting known to occur within area

[Psophodes nigrogularis nigrogularis](#)

Western Heath Whipbird [64449] Endangered Species or species habitat known to occur within area

[Pterodroma mollis](#)

Soft-plumaged Petrel [1036] Vulnerable Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Rostratula australis](#)

Australian Painted Snipe [77037] Endangered Species or species habitat known to occur within area

[Sternula nereis nereis](#)

Australian Fairy Tern [82950] Vulnerable Foraging, feeding or related behaviour known to occur within area

[Thalassarche carteri](#)

Indian Yellow-nosed Albatross [64464] Vulnerable Species or species habitat likely to occur within area

[Thalassarche cauta](#)

Shy Albatross [89224] Endangered Foraging, feeding or related behaviour likely to occur within area

[Thalassarche chrysostoma](#)

Grey-headed Albatross [66491] Endangered Species or species habitat may occur within area

[Thalassarche impavida](#)

Campbell Albatross, Campbell Black-browed Albatross [64459] Vulnerable Species or species habitat may occur within area

[Thalassarche melanophris](#)

Black-browed Albatross [66472] Vulnerable Foraging, feeding or related behaviour likely to occur within area

[Thalassarche steady](#)

White-capped Albatross [64462] Vulnerable Species or species habitat may occur within area

[Tringa nebularia](#)

Common Greenshank, Greenshank [832] Endangered Species or species habitat known to occur within area

[Xenus cinereus](#)

Terek Sandpiper [59300] Vulnerable Roosting known to occur within area

[Zanda baudinii listed as Calyptorhynchus baudinii](#)

Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-cockatoo [87736] Endangered Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Zanda latirostris listed as Calyptorhynchus latirostris](#)

Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Breeding known to occur within area
---	------------	-------------------------------------

CRUSTACEAN

[Engaewa pseudoreducta](#)

Margaret River Burrowing Crayfish [82674]	Critically Endangered	Species or species habitat may occur within area
---	-----------------------	--

[Engaewa reducta](#)

Dunsborough Burrowing Crayfish [82675]	Critically Endangered	Species or species habitat may occur within area
--	-----------------------	--

FISH

[Galaxias truttaceus \(Western Australian population\)](#)

Western Trout Minnow [89857]	Endangered	Species or species habitat known to occur within area
------------------------------	------------	---

[Galaxiella nigrostriata](#)

Blackstriped Dwarf Galaxias, stripe Minnow [88677]	Black-Endangered	Species or species habitat known to occur within area
--	------------------	---

[Hoplostethus atlanticus](#)

Orange Roughy, Deep-sea Perch, Red Roughy [68455]	Conservation Dependent	Species or species habitat likely to occur within area
---	------------------------	--

[Nannatherina balstoni](#)

Balston's Pygmy Perch [66698]	Vulnerable	Species or species habitat known to occur within area
-------------------------------	------------	---

[Thunnus maccoyii](#)

Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat known to occur within area
-------------------------------	------------------------	---

INSECT

[Hesperocolletes douglasi](#)

Douglas' Broad-headed Bee, Rottnest Bee [66734]	Critically Endangered	Species or species habitat may occur within area
---	-----------------------	--

[Trioza barrettae](#)

Banksia brownii plant louse [87805]	Endangered	Species or species habitat known to occur within area
-------------------------------------	------------	---

MAMMAL

Scientific Name	Threatened Category	Presence Text
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Foraging, feeding or related behaviour known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Bettongia penicillata ogilbyi Woylie [66844]	Endangered	Species or species habitat known to occur within area
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area
Myrmecobius fasciatus Numbat [294]	Endangered	Species or species habitat may occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Breeding known to occur within area
Parantechinus apicalis Dibbler [313]	Endangered	Species or species habitat known to occur within area
Petrogale lateralis hacketti Recherche Rock-wallaby [66849]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Petrogale lateralis lateralis](#)
 Black-flanked Rock-wallaby, Moorong, Endangered Translocated population known to occur within area
 Black-footed Rock Wallaby [66647]

[Phascogale calura](#)
 Red-tailed Phascogale, Red-tailed Wambenger, Kenngoor [316] Vulnerable Species or species habitat may occur within area

[Potorous gilbertii](#)
 Gilbert's Potoroo, Ngilkat [66642] Critically Endangered Species or species habitat known to occur within area

[Pseudocheirus occidentalis](#) Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911] Critically Endangered Breeding known to occur within area

[Pseudomys shortridgei](#)
 Heath Mouse, Dayang, Heath Rat [77] Endangered Species or species habitat likely to occur within area

[Setonix brachyurus](#)
 Quokka [229] Vulnerable Species or species habitat known to occur within area

OTHER
[Westralunio carteri](#)
 Carter's Freshwater Mussel, Freshwater Mussel [86266] Vulnerable Species or species habitat known to occur within area

PLANT
[Adenanthos dobagii](#)
 Fitzgerald Woollybush [21253]Endangered Species or species habitat likely to occur within area

[Adenanthos ellipticus](#)
 Oval-leaf Adenanthos [4570] Vulnerable Species or species habitat likely to occur within area

[Andersonia gracilis](#)
 Slender Andersonia [14470] Endangered Species or species habitat may occur within area

[Andersonia pinaster](#)
 Two Peoples Bay Andersonia [67444] Vulnerable Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Anigozanthos bicolor subsp. minor](#)
 Little Kangaroo Paw, Two-coloured Kangaroo Paw, Small Two-colour Kangaroo Paw [21241]

Endangered
 Species or species habitat likely to occur within area

[Banksia brownii](#)
 Brown's Banksia, Feather-leaved Banksia [8277]

Critically Endangered
 Species or species habitat known to occur within area

[Banksia nivea subsp. uliginosa](#)
 Swamp Honeypot [82766]

Endangered
 Species or species habitat may occur within area

[Banksia squarrosa subsp. argillacea](#)
 Whicher Range Dryandra [82769]

Vulnerable
 Species or species habitat likely to occur within area

[Banksia verticillata](#)
 Granite Banksia, Albany Banksia, River Banksia [8333]

Vulnerable
 Species or species habitat known to occur within area

[Boronia clavata](#)
 Bremer Boronia [5538]

Endangered
 Species or species habitat may occur within area

[Brachyscias verecundus](#)
 Ironstone Brachyscias [81321]

Critically Endangered
 Species or species habitat may occur within area

[Caladenia busselliana](#)
 Bussell's Spider-orchid [24369]

Endangered
 Species or species habitat likely to occur within area

[Caladenia caesarea subsp. maritima](#)
 Cape Spider-orchid [64856]

Endangered
 Species or species habitat known to occur within area

[Caladenia excelsa](#)
 Giant Spider-orchid [56717]

Endangered
 Species or species habitat likely to occur within area

[Caladenia granitora](#)
 [65292]

Endangered
 Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Caladenia harringtoniae](#)
Harrington's Spider-orchid, Pink Spider-orchid [56786]

Vulnerable

Species or species habitat may occur within area

[Caladenia huegelii](#)
King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]

Endangered

Species or species habitat known to occur within area

[Caladenia lodgeana](#)
Lodge's Spider-orchid [68664]

Critically Endangered

Species or species habitat likely to occur within area

[Caladenia procera](#)
Carbunup King Spider Orchid [68679]

Critically Endangered

Species or species habitat known to occur within area

[Caladenia viridescens](#)
Dunsborough Spider-orchid [56776]

Endangered

Species or species habitat known to occur within area

[Calectasia cyanea](#)
Blue Tinsel Lily [7669]

Critically Endangered

Species or species habitat likely to occur within area

[Chamelaucium lullfitzii listed as Chamelaucium sp. Gingin \(N.G.Marchant 6\)](#)
Gingin Wax [92777] Gingin

Endangered (listed as Chamelaucium sp.)

Species or species habitat likely to occur within area

[Chamelaucium sp. S coastal plain \(R.D.Royce 4872\)](#)
Royce's Waxflower [87814]

Vulnerable

Species or species habitat likely to occur within area

[Chordifex abortivus](#)
Manypeaks Rush [64868]

Endangered

Species or species habitat likely to occur within area

[Commersonia apella](#)
Many-flowered Commersonia [86877]

Critically Endangered

Species or species habitat known to occur within area

[Coopernookia georgei](#)
Mauve Coopernookia [21218]

Endangered

Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Daviesia obovata Paddle-leaf Daviesia [17311]	Endangered	Species or species habitat likely to occur within area
Diuris drummondii Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat likely to occur within area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat known to occur within area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat may occur within area
Drakaea elastica Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus argutifolia Yanchep Mallee, Wabling Hill Mallee [24263]	Vulnerable	Species or species habitat may occur within area
Eucalyptus insularis Twin Peak Island Mallee [3057]	Endangered	Species or species habitat likely to occur within area
Eucalyptus x phylacis Meelup Mallee [87817]	Endangered	Species or species habitat known to occur within area
Gastrolobium papilio Butterfly-leaved Gastrolobium [78415]	Endangered	Species or species habitat may occur within area
Grevillea elongata Ironstone Grevillea [64578]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Grevillea infundibularis Fan-leaf Grevillea [5772]	Endangered	Species or species habitat likely to occur within area
Isopogon uncinatus Albany Cone Bush, Hook-leaf Isopogon [20871]	Endangered	Species or species habitat likely to occur within area
Kennedia glabrata Northcliffe Kennedia [16452]	Vulnerable	Species or species habitat known to occur within area
Lambertia echinata subsp. echinata Prickly Honeysuckle [56729]	Endangered	Species or species habitat known to occur within area
Lambertia echinata subsp. occidentalis Western Prickly Honeysuckle [64528]	Endangered	Species or species habitat may occur within area
Morelotia australiensis listed as Tetraria australiensis Southern Tetraria [92784]	Vulnerable	Species or species habitat may occur within area
Petrophile latericola Laterite Petrophile [64532]	Endangered	Species or species habitat may occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area
Reedia spathacea Reedia [2995]	Critically Endangered	Species or species habitat may occur within area
Ricinocarpos trichophorus Barrens Wedding Bush [19931]	Endangered	Species or species habitat may occur within area
Sphenotoma drummondii Mountain Paper-heath [21160]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Stylidium galioides Yellow Mountain Triggerplant [4666]	Vulnerable	Species or species habitat may occur within area
Synaphea sp. Fairbridge Farm (D.Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat may occur within area
Verticordia crebra [55678]	Vulnerable	Species or species habitat likely to occur within area
Verticordia densiflora var. pedunculata Long-stalked Featherflower [55689]	Endangered	Species or species habitat may occur within area
Verticordia plumosa var. ananeotes Tufted Plumed Featherflower [23871]	Endangered	Species or species habitat may occur within area
Verticordia plumosa var. vassensis Vasse Featherflower [55804]	Endangered	Species or species habitat may occur within area
Wurmbea calcicola Naturaliste Nancy [64691]	Endangered	Species or species habitat known to occur within area

REPTILE

Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

SHARK

Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Congregation or aggregation known to occur within area
---	------------	--

Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
--	------------	---

Centrophorus uyato Little Gulper Shark [68446]	Conservation Dependent	Species or species habitat likely to occur within area
---	------------------------	--

Galeorhinus galeus School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark [68453]	Conservation Dependent	Species or species habitat may occur within area
--	------------------------	--

Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
--	------------	--

Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
--	------------	--

Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat known to occur within area
--	------------------------	---

Listed Migratory Species

[Resource Information]

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds Common Noddy [825]	Anous stolidus Species or species habitat likely to occur within area	

Apus pacificus Fork-tailed Swift [678]	Species or species habitat likely to occur within area	
---	--	--

Scientific Name	Threatened Category	Presence Text
Ardena carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Breeding known to occur within area
Ardena grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area
Ardena pacifica Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Ardena tenuirostris Short-tailed Shearwater [82652]		Breeding known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat likely to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Hydroprogne caspia Caspian Tern [808]		Breeding known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Onychoprion anaethetus Bridled Tern [82845]	Breeding known to occur within area	
Phaethon rubricauda Red-tailed Tropicbird [994]	Breeding known to occur within area	
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat likely to occur within area
Sterna dougallii Roseate Tern [817]	Breeding known to occur within area	
Sternula albifrons Little Tern [82849]	Species or species habitat may occur within area	
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche chrysostoma Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Thalassarche steady](#)

White-capped Albatross [64462] Vulnerable Species or species habitat may occur within area

Migratory Marine Species [Balaenoptera bonaerensis](#)

Antarctic Minke Whale, Dark-shoulder Minke Whale [67812] Species or species habitat likely to occur within area

[Balaenoptera borealis](#)

Sei Whale [34] Vulnerable Foraging, feeding or related behaviour likely to occur within area

[Balaenoptera edeni](#)

Bryde's Whale [35] Species or species habitat likely to occur within area

[Balaenoptera musculus](#)

Blue Whale [36] Endangered Foraging, feeding or related behaviour known to occur within area

[Balaenoptera physalus](#)

Fin Whale [37] Vulnerable Foraging, feeding or related behaviour likely to occur within area

[Caperea marginata](#)

Pygmy Right Whale [39] Foraging, feeding or related behaviour likely to occur within area

[Carcharhinus longimanus](#)

Oceanic Whitetip Shark [84108] Species or species habitat likely to occur within area

[Carcharodon carcharias](#)

White Shark, Great White Shark [64470] Vulnerable Foraging, feeding or related behaviour known to occur within area

[Caretta caretta](#)

Loggerhead Turtle [1763]Endangered Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat likely to occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]		Foraging, feeding or related behaviour known to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Physeter macrocephalus Sperm Whale [59]		Foraging, feeding or related behaviour known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Migratory Terrestrial Species Motacilla cinerea Grey Wagtail [642]		Species or species habitat known to occur within area
Migratory Wetlands Species Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Calidris pugnax as Philomachus pugnax Ruff [91256]		Roosting known to occur within area
Calidris ruficollis Red-necked Stint [860]	Roosting known to occur within area	
Calidris subminuta Long-toed Stint [861]	Roosting known to occur within area	
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]	Roosting known to occur within area	
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Gallinago megala Swinhoe's Snipe [864]	Roosting likely to occur within area	
Gallinago stenura Pin-tailed Snipe [841]	Roosting likely to occur within area	
Glareola maldivarum Oriental Pratincole [840]	Species or species habitat known to occur within area	
Limicola falcinellus Broad-billed Sandpiper [842]	Roosting known to occur within area	
Limosa lapponica Bar-tailed Godwit [844]	Species or species habitat known to occur within area	
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Phalaropus lobatus Red-necked Phalarope [838]		Roosting known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Xenus cinereus		
Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Lands	[Resource Information]
--------------------	--

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State
Defence	

Defence - ARTILLERY BARRACKS - FREMANTLE [50155] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50183] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50184] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50186] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50185] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50181] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50187] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50182] WA

Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN WA ISLAND [50117]

Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN WA ISLAND [50133]

Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN WA ISLAND [50134]

Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN WA ISLAND [50132]

Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN WA ISLAND [50131]

Defence - ROCKINGHAM - NAVY CPSO [50135] WA

Defence - SWANBOURNE RIFLE RANGE [50188]WA

Commonwealth Land Name		State
Defence - SWANBOURNE RIFLE RANGE [50191]		WA
Unknown	Commonwealth Land - [50504]	WA
Commonwealth Land - [50503]		WA
Commonwealth Land - [50507]		WA
Commonwealth Land - [50506]		WA
Commonwealth Land - [50495]		WA
Commonwealth Land - [50505]		WA
Commonwealth Land - [50425]		WA
Commonwealth Land - [50473]		WA
Commonwealth Land - [50424]		WA
Commonwealth Land - [50493]		WA
Commonwealth Land - [50567]		WA
Commonwealth Land - [50633]		WA
Commonwealth Land - [50566]		WA
Commonwealth Land - [50483]		WA
Commonwealth Land - [50467]		WA
Commonwealth Land - [50487]		WA
Commonwealth Land - [50551]		WA
Commonwealth Land - [50558]		WA
Commonwealth Land - [50431]		WA
Commonwealth Land - [50550]		WA
Commonwealth Land - [50518]		WA
Commonwealth Land - [50437]		WA
Commonwealth Land - [50422]		WA
Commonwealth Land - [51437]		WA
Commonwealth Land - [50579]		WA

Commonwealth Land Name		State
Commonwealth Land - [50631]		WA
Commonwealth Land - [51480]	WA	
Commonwealth Land - [50470]	WA	
Commonwealth Land - [51436]	WA	
Commonwealth Land - [50478]	WA	
Commonwealth Land - [50510]	WA	
Commonwealth Land - [50511]	WA	
Commonwealth Land - [50605]	WA	
Commonwealth Land - [50516]	WA	
Commonwealth Land - [50638]	WA	
Commonwealth Land - [50412]	WA	
Commonwealth Land - [50517]	WA	
Commonwealth Land - [50496]	WA	
Commonwealth Land - [50501]	WA	
Commonwealth Land - [50498]	WA	
Commonwealth Land - [50419]	WA	
Commonwealth Land - [50418]	WA	
Commonwealth Land - [50629]	WA	
Commonwealth Land - [50624]	WA	
Commonwealth Land - [50608]	WA	
Commonwealth Land - [50573]	WA	
Commonwealth Land - [50628]	WA	
Commonwealth Land - [50485]	WA	
Commonwealth Land - [51889]	WA	
Commonwealth Land - [50446]	WA	
Commonwealth Land - [50500]	WA	
Commonwealth Land - [50486]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50475]		WA
Commonwealth Land - [50456]	WA	
Commonwealth Land - [50457]	WA	
Commonwealth Land - [52281]	WA	
Commonwealth Land - [50455]	WA	
Commonwealth Land - [50522]	WA	
Commonwealth Land - [50529]	WA	
Commonwealth Land - [50527]	WA	
Commonwealth Land - [50525]	WA	
Commonwealth Land - [50571]	WA	
Commonwealth Land - [50570]	WA	
Commonwealth Land - [50492]	WA	
Commonwealth Land - [51890]	WA	
Commonwealth Land - [51105]	WA	
Commonwealth Land - [50471]	WA	
Commonwealth Land - [50622]	WA	
Commonwealth Land - [50458]	WA	
Commonwealth Land - [50621]	WA	
Commonwealth Land - [50620]	WA	
Commonwealth Land - [50623]	WA	
Commonwealth Land - [50452]	WA	
Commonwealth Land - [50450]	WA	
Commonwealth Land - [50451]	WA	
Commonwealth Land - [50454]	WA	
Commonwealth Land - [50589]	WA	
Commonwealth Land - [50639]	WA	
Commonwealth Land - [50464]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50463]		WA
Commonwealth Land - [50635]	WA	
Commonwealth Land - [50632]	WA	
Commonwealth Land - [50634]	WA	
Commonwealth Land - [51487]	WA	
Commonwealth Land - [50466]	WA	
Commonwealth Land - [50469]	WA	
Commonwealth Land - [50557]	WA	
Commonwealth Land - [50569]	WA	
Commonwealth Land - [50401]	WA	
Commonwealth Land - [50539]	WA	
Commonwealth Land - [50538]	WA	
Commonwealth Land - [50531]	WA	
Commonwealth Land - [50530]	WA	
Commonwealth Land - [50533]	WA	
Commonwealth Land - [50613]	WA	
Commonwealth Land - [50415]	WA	
Commonwealth Land - [50389]	WA	
Commonwealth Land - [50438]	WA	
Commonwealth Land - [50388]	WA	
Commonwealth Land - [50442]	WA	
Commonwealth Land - [50443]	WA	
Commonwealth Land - [50441]	WA	
Commonwealth Land - [50447]	WA	
Commonwealth Land - [52119]	WA	
Commonwealth Land - [50524]	WA	
Commonwealth Land - [50484]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50523]		WA
Commonwealth Land - [50387]	WA	
Commonwealth Land - [50434]	WA	
Commonwealth Land - [50433]	WA	
Commonwealth Land - [50536]	WA	
Commonwealth Land - [51987]	WA	
Commonwealth Land - [50432]	WA	
Commonwealth Land - [50449]	WA	
Commonwealth Land - [50617]	WA	
Commonwealth Land - [50580]	WA	
Commonwealth Land - [50616]	WA	
Commonwealth Land - [50465]	WA	
Commonwealth Land - [51411]	WA	
Commonwealth Land - [51117]	WA	
Commonwealth Land - [50581]	WA	
Commonwealth Land - [52242]	WA	
Commonwealth Land - [51895]	WA	
Commonwealth Land - [50526]	WA	
Commonwealth Land - [50564]	WA	
Commonwealth Land - [50565]	WA	
Commonwealth Land - [50618]	WA	
Commonwealth Land - [50404]	WA	
Commonwealth Land - [50610]	WA	
Commonwealth Land - [50619]	WA	
Commonwealth Land - [50612]	WA	
Commonwealth Land - [50611]	WA	
Commonwealth Land - [50615]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50614]		WA
Commonwealth Land - [50568]	WA	
Commonwealth Land - [51892]	WA	
Commonwealth Land - [51891]	WA	
Commonwealth Land - [51894]	WA	
Commonwealth Land - [51893]	WA	
Commonwealth Land - [52200]	WA	
Commonwealth Land - [50535]	WA	
Commonwealth Land - [50532]	WA	
Commonwealth Land - [50537]	WA	
Commonwealth Land - [50534]	WA	
Commonwealth Land - [50509]	WA	
Commonwealth Land - [50627]	WA	
Commonwealth Land - [50497]	WA	
Commonwealth Land - [50453]	WA	
Commonwealth Land - [50637]	WA	
Commonwealth Land - [50416]	WA	
Commonwealth Land - [50459]	WA	
Commonwealth Land - [52279]	WA	
Commonwealth Land - [50572]	WA	
Commonwealth Land - [50479]	WA	
Commonwealth Land - [50476]	WA	
Commonwealth Land - [50474]	WA	
Commonwealth Land - [50577]	WA	
Commonwealth Land - [50600]	WA	
Commonwealth Land - [50604]	WA	
Commonwealth Land - [50603]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50601]		WA
Commonwealth Land - [50578]	WA	
Commonwealth Land - [50472]	WA	
Commonwealth Land - [50477]	WA	
Commonwealth Land - [50590]	WA	
Commonwealth Land - [50599]	WA	
Commonwealth Land - [50591]	WA	
Commonwealth Land - [50480]	WA	
Commonwealth Land - [50488]	WA	
Commonwealth Land - [50482]	WA	
Commonwealth Land - [50512]	WA	
Commonwealth Land - [50597]	WA	
Commonwealth Land - [50595]	WA	
Commonwealth Land - [50491]	WA	
Commonwealth Land - [50481]	WA	
Commonwealth Land - [50462]	WA	
Commonwealth Land - [50520]	WA	
Commonwealth Land - [50423]	WA	
Commonwealth Land - [50444]	WA	
Commonwealth Land - [50428]	WA	
Commonwealth Land - [50390]	WA	
Commonwealth Land - [50427]	WA	
Commonwealth Land - [52199]	WA	
Commonwealth Land - [50521]	WA	
Commonwealth Land - [50641]	WA	
Commonwealth Land - [50421]	WA	
Commonwealth Land - [50640]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50420]		WA
Commonwealth Land - [50609]	WA	
Commonwealth Land - [50499]	WA	
Commonwealth Land - [50514]	WA	
Commonwealth Land - [50490]	WA	
Commonwealth Land - [50548]	WA	
Commonwealth Land - [50549]	WA	
Commonwealth Land - [50544]	WA	
Commonwealth Land - [51116]	WA	
Commonwealth Land - [51115]	WA	
Commonwealth Land - [51113]	WA	
Commonwealth Land - [50602]	WA	
Commonwealth Land - [51974]	WA	
Commonwealth Land - [50528]	WA	
Commonwealth Land - [50552]	WA	
Commonwealth Land - [51119]	WA	
Commonwealth Land - [50555]	WA	
Commonwealth Land - [50554]	WA	
Commonwealth Land - [50541]	WA	
Commonwealth Land - [50540]	WA	
Commonwealth Land - [50543]	WA	
Commonwealth Land - [50542]	WA	
Commonwealth Land - [50417]	WA	
Commonwealth Land - [50596]	WA	
Commonwealth Land - [50556]	WA	
Commonwealth Land - [50545]	WA	
Commonwealth Land - [50546]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50547]		WA
Commonwealth Land - [50636]	WA	
Commonwealth Land - [51488]	WA	
Commonwealth Land - [50519]	WA	
Commonwealth Land - [50445]	WA	
Commonwealth Land - [50461]	WA	
Commonwealth Land - [50460]	WA	
Commonwealth Land - [50513]	WA	
Commonwealth Land - [50515]	WA	
Commonwealth Land - [50468]	WA	

Commonwealth Heritage Places			[Resource Information]
Name	State	Status	
Historic			
Artillery Barracks	WA	Listed place	
Cliff Point Historic Site	WA	Listed place	
J Gun Battery	WA	Listed place	
Natural			
Garden Island	WA	Listed place	

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence	Text
Bird Actitis hypoleucos			
Common Sandpiper [59309]	Species or species habitat known to occur within area		
Anous stolidus			
Common Noddy [825]	Species or species habitat likely to occur within area		
Anous tenuirostris melanops			
Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area	

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Apus pacificus](#)

Fork-tailed Swift [678] Species or species habitat likely to occur within area overfly marine area

[Ardenna carneipes as Puffinus carneipes](#)

Flesh-footed Shearwater, Fleshy-footed Shearwater [82404] Breeding known to occur within area

[Ardenna grisea as Puffinus griseus](#)

Sooty Shearwater [82651] Vulnerable Species or species habitat may occur within area

[Ardenna pacifica as Puffinus pacificus](#)

Wedge-tailed Shearwater [84292] Breeding known to occur within area

[Ardenna tenuirostris as Puffinus tenuirostris](#)

Short-tailed Shearwater [82652] Breeding known to occur within area

[Arenaria interpres](#)

Ruddy Turnstone [872] Vulnerable Roosting known to occur within area

[Bubulcus ibis as Ardea ibis](#)

Cattle Egret [66521] Species or species habitat may occur within area overfly marine area

[Calidris acuminata](#)

Sharp-tailed Sandpiper [874] Vulnerable Roosting known to occur within area

[Calidris alba](#)

Sanderling [875] Roosting known to occur within area

[Calidris canutus](#)

Red Knot, Knot [855] Vulnerable Species or species habitat known to occur within area overfly marine area

[Calidris ferruginea](#)

Curlew Sandpiper [856] Critically Endangered Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Calidris melanotos](#)

Pectoral Sandpiper [858] Species or species habitat known to occur within area overfly marine area

[Calidris pugnax as Philomachus pugnax](#)

Ruff [91256] Roosting known to occur within area overfly marine area

[Calidris ruficollis](#)

Red-necked Stint [860] Roosting known to occur within area overfly marine area

[Calidris subminuta](#)

Long-toed Stint [861] Roosting known to occur within area overfly marine area

[Calidris tenuirostris](#)

Great Knot [862] Vulnerable Roosting known to occur within area overfly marine area

[Cereopsis novaehollandiae grisea](#) Cape

Barren Goose (south-western), Vulnerable Breeding known to occur within area overfly marine area
Recherche Cape Barren Goose [25978]

[Chalcites osculans as Chrysococcyx osculans](#)

Black-eared Cuckoo [83425] Species or species habitat likely to occur within area overfly marine area

[Charadrius bicinctus](#)

Double-banded Plover [895] Roosting known to occur within area overfly marine area

[Charadrius leschenaultii](#)

Greater Sand Plover, Large Sand Plover Vulnerable Species or species habitat known to occur within area
[877]

[Charadrius mongolus](#)

Lesser Sand Plover, Mongolian Plover Endangered Roosting known to occur within area
[879]

[Charadrius ruficapillus](#)

Red-capped Plover [881] Roosting known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Chroicocephalus novaehollandiae as Larus novaehollandiae		
Silver Gull [82326]	Breeding known to occur within area	
Diomedea amsterdamensis		
Amsterdam Albatross [64405]	Endangered	Species or species habitat likely to occur within area
Diomedea antipodensis		
Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena		
Tristan Albatross [66471]	Endangered	Species or species habitat likely to occur within area
Diomedea epomophora		
Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans		
Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi		
Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Eudyptula minor		
Little Penguin [1085]	Breeding known to occur within area	
Gallinago megala		
Swinhoe's Snipe [864]	Roosting likely to occur within area overfly marine area	
Gallinago stenura		
Pin-tailed Snipe [841]	Roosting likely to occur within area overfly marine area	
Glareola maldivarum		
Oriental Pratincole [840]	Species or species habitat known to occur within area overfly marine area	

Scientific Name	Threatened Category	Presence Text
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Breeding known to occur within area
Larus dominicanus Kelp Gull [809]		Breeding known to occur within area
Larus pacificus Pacific Gull [811]		Breeding known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area overfly marine area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Merops ornatus](#)

Rainbow Bee-eater [670] Species or species habitat may occur within area overfly marine area

[Motacilla cinerea](#)

Grey Wagtail [642] Species or species habitat known to occur within area overfly marine area

[Numenius madagascariensis](#) Eastern

Curlew, Far Eastern Curlew [847] Critically Endangered Species or species habitat known to occur within area

[Numenius minutus](#)

Little Curlew, Little Whimbrel [848] Roosting likely to occur within area overfly marine area

[Numenius phaeopus](#)

Whimbrel [849]Roosting known to occur within area

[Onychoprion anaethetus](#) as [Sterna anaethetus](#)

Bridled Tern [82845] Breeding known to occur within area

[Onychoprion fuscatus](#) as [Sterna fuscata](#)

Sooty Tern [90682] Breeding known to occur within area

[Pachyptila turtur](#)

Fairy Prion [1066] Species or species habitat known to occur within area

[Pandion haliaetus](#)

Osprey [952] Breeding known to occur within area

[Pelagodroma marina](#)

White-faced Storm-Petrel [1016] Breeding known to occur within area

[Phaethon rubricauda](#)

Red-tailed Tropicbird [994] Breeding known to occur within area

[Phalacrocorax fuscescens](#)

Black-faced Cormorant [59660] Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Phalaropus lobatus Red-necked Phalarope [838]		Roosting known to occur within area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat likely to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area overfly marine area
Pterodroma macroptera Great-winged Petrel [1035]		Breeding known to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Puffinus assimilis Little Shearwater [59363]		Breeding known to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area overfly marine area
Stercorarius antarcticus as Catharacta skua Brown Skua [85039]		Species or species habitat may occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area
Sternula albifrons as Sterna albifrons Little Tern [82849]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Sternula nereis as Sterna nereis Fairy Tern [82949]		Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche chrysostoma Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area
Thalasseus bergii as Sterna bergii Greater Crested Tern [83000]		Breeding known to occur within area
Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735]		Species or species habitat known to occur within area overfly marine area
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area overfly marine area
Xenus cinereus Terek Sandpiper [59300] Vulnerable		Roosting known to occur within area overfly marine area
Fish Acentronura australe Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
Campichthys galei Gale's Pipefish [66191]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Hippocampus subelongatus](#)

West Australian Seahorse [66722] Species or species habitat may occur within area

[Histiogamphelus cristatus](#)

Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243] Species or species habitat may occur within area

[Leptoichthys fistularius](#)

Brushtail Pipefish [66248] Species or species habitat may occur within area

[Lissocampus caudalis](#)

Australian Smooth Pipefish, Smooth Pipefish [66249] Species or species habitat may occur within area

[Lissocampus fatiloquus](#)

Prophet's Pipefish [66250] Species or species habitat may occur within area

[Lissocampus runa](#)

Javelin Pipefish [66251] Species or species habitat may occur within area

[Maroubra perserrata](#)

Sawtooth Pipefish [66252] Species or species habitat may occur within area

[Mitotichthys meraculus](#)

Western Crested Pipefish [66259] Species or species habitat may occur within area

[Nannocampus subosseus](#)

Bonyhead Pipefish, Bony-headed Pipefish [66264] Species or species habitat may occur within area

[Notiocampus ruber](#)

Red Pipefish [66265] Species or species habitat may occur within area

[Phycodurus eques](#)

Leafy Seadragon [66267]Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Phyllopteryx taeniolatus](#)
Common Seadragon, Weedy Seadragon
[66268]

Species or species habitat may occur within area

[Pugnaso curtirostris](#)
Pugnose Pipefish, Pug-nosed Pipefish
[66269]

Species or species habitat may occur within area

[Solegnathus lettiensis](#)
Gunther's Pipehorse, Indonesian Pipefish
[66273]

Species or species habitat may occur within area

[Stigmatopora argus](#)
Spotted Pipefish, Gulf Pipefish, Peacock Pipefish
[66276]

Species or species habitat may occur within area

[Stigmatopora nigra](#)
Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish
[66277]

Species or species habitat may occur within area

[Syngnathoides biaculeatus](#)
Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish
[66279]

Species or species habitat may occur within area

[Urocampus carinirostris](#)
Hairy Pipefish [66282]

Species or species habitat may occur within area

[Vanacampus margaritifer](#)
Mother-of-pearl Pipefish [66283]

Species or species habitat may occur within area

[Vanacampus phillipi](#)
Port Phillip Pipefish [66284]

Species or species habitat may occur within area

[Vanacampus poecilolaemus](#) Longsnout Pipefish, Australian Long- snout Pipefish, Long-snouted Pipefish
[66285]

Species or species habitat may occur within area

Mammal [Arctocephalus forsteri](#)
Long-nosed Fur-seal, New Zealand Fur-seal
[20]

Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Neophoca cinerea](#)
 Australian Sea-lion, Australian Sea Lion Endangered Breeding known to occur within area [22]

Reptile [Aipysurus pooleorum](#)
 Shark Bay Sea Snake [66061] Species or species habitat may occur within area

[Caretta caretta](#)
 Loggerhead Turtle [1763]Endangered Foraging, feeding or related behaviour known to occur within area

[Chelonia mydas](#)
 Green Turtle [1765] Vulnerable Foraging, feeding or related behaviour known to occur within area

[Dermochelys coriacea](#)
 Leatherback Turtle, Leathery Turtle, LuthEndangered Foraging, feeding or related behaviour known to occur [1768] within area

[Hydrophis kingii as Disteira kingii](#)
 Spectacled Sea Snake [93511] Species or species habitat may occur within area

[Hydrophis platura as Pelamis platurus](#)
 Yellow-bellied Sea Snake [93746] Species or species habitat may occur within area

[Natator depressus](#)
 Flatback Turtle [59257] Vulnerable Foraging, feeding or related behaviour known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence

Mammal [Balaenoptera acutorostrata](#)
 Minke Whale [33] Species or species habitat may occur within area

[Balaenoptera bonaerensis](#)
 Antarctic Minke Whale, Dark-shoulder Minke Whale [67812] Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Foraging, feeding or related behaviour known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Berardius arnuxii Arnoux's Beaked Whale [70]		Species or species habitat may occur within area
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Globicephala melas Long-finned Pilot Whale [59282]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Hyperoodon planifrons Southern Bottlenose Whale [71]	Species or species habitat may occur within area	
Kogia breviceps Pygmy Sperm Whale [57]	Species or species habitat may occur within area	
Kogia sima Dwarf Sperm Whale [85043]	Species or species habitat may occur within area	
Lagenorhynchus obscurus Dusky Dolphin [43]	Species or species habitat likely to occur within area	
Lissodelphis peronii Southern Right Whale Dolphin [44]	Species or species habitat may occur within area	
Megaptera novaeangliae Humpback Whale [38]	Foraging, feeding or related behaviour known to occur within area	
Mesoplodon bowdoini Andrew's Beaked Whale [73]	Species or species habitat may occur within area	
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Mesoplodon ginkgodens Ginkgo-toothed Beaked Whale, Ginkgo-toothed Whale, Ginkgo Beaked Whale [59564]		Species or species habitat may occur within area
Mesoplodon grayi Gray's Beaked Whale, Scamperdown Whale [75]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Mesoplodon hectori Hector's Beaked Whale [76]		Species or species habitat may occur within area
Mesoplodon layardii Strap-toothed Beaked Whale, Strap-toothed Whale, Layard's Beaked Whale [25556]		Species or species habitat may occur within area
Mesoplodon mirus True's Beaked Whale [54]	Species or species habitat may occur within area	
Orcinus orca Killer Whale, Orca [46]	Species or species habitat may occur within area	
Peponocephala electra Melon-headed Whale [47]	Species or species habitat may occur within area	
Physeter macrocephalus Sperm Whale [59]	Foraging, feeding or related behaviour known to occur within area	
Pseudorca crassidens False Killer Whale [48]	Species or species habitat likely to occur within area	
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]	Species or species habitat may occur within area	
Steno bredanensis Rough-toothed Dolphin [30]	Species or species habitat may occur within area	

Current Scientific Name	Status	Type of Presence
Tasmacetus shepherdi Shepherd's Beaked Whale, Tasman Beaked Whale [55]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]	Species or species habitat may occur within area	
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Australian Marine Parks		[Resource Information]
Park Name	Zone & IUCN Categories	
Geographe	Habitat Protection Zone (IUCN IV)	
Perth Canyon	Habitat Protection Zone (IUCN IV)	
Perth Canyon	Habitat Protection Zone (IUCN IV)	
South-west Corner	Habitat Protection Zone (IUCN IV)	
Geographe	Multiple Use Zone (IUCN VI)	
Perth Canyon	Multiple Use Zone (IUCN VI)	
Perth Canyon	Multiple Use Zone (IUCN VI)	
South-west Corner	Multiple Use Zone (IUCN VI)	
South-west Corner	Multiple Use Zone (IUCN VI)	
South-west Corner	Multiple Use Zone (IUCN VI)	
South-west Corner	Multiple Use Zone (IUCN VI)	
Bremer	National Park Zone (IUCN II)	
Geographe	National Park Zone (IUCN II)	

Park Name		Zone & IUCN Categories
Perth Canyon		National Park Zone (IUCN II)
Perth Canyon National Park Zone (IUCN II)		
South-west Corner National Park Zone (IUCN II)		
South-west Corner National Park Zone (IUCN II)		
South-west Corner National Park Zone (IUCN II)		
South-west Corner National Park Zone (IUCN II)		
South-west Corner National Park Zone (IUCN II)		
South-west Corner National Park Zone (IUCN II)		
South-west Corner Special Purpose Zone (IUCN VI)		
South-west Corner Special Purpose Zone (IUCN VI)		
Bremer Special Purpose Zone (Mining Exclusion) (IUCN VI)		
Bremer Special Purpose Zone (Mining Exclusion) (IUCN VI)		
Geographe Special Purpose Zone (Mining Exclusion) (IUCN VI)		
South-west Corner Special Purpose Zone (Mining Exclusion) (IUCN VI)		
South-west Corner Special Purpose Zone (Mining Exclusion) (IUCN VI)		

Extra Information

State and Territory Reserves		[Resource Information]
Protected Area Name	Reserve Type	State
Arpenteur	Nature Reserve	WA
Bald Island	Nature Reserve	WA
Bold Park	Botanic Gardens	WA
Broadwater	Nature Reserve	WA
Cape Le Grand	National Park	WA

Protected Area Name	Reserve Type	State
Carnac Island	Nature Reserve	WA
Cottesloe Reef	Fish Habitat Protection Area	WA
D'Entrecasteaux	National Park	WA
Doubtful Islands	Nature Reserve	WA
Eclipse Island	Nature Reserve	WA
Fitzgerald River	National Park	WA
Flinders Bay	Nature Reserve	WA
Hamelin Island	Nature Reserve	WA
Investigator Island	Nature Reserve	WA
Jerdacuttup Lakes	Nature Reserve	WA
Leeuwin-Naturaliste	National Park	WA
Locke	Nature Reserve	WA
Marmion	Marine Park	WA
Mount Manypeaks	Nature Reserve	WA
Ngari Capes	Marine Park	WA
NTWA Bushland covenant (0085A)	Conservation Covenant	WA
NTWA Bushland covenant (0085B)	Conservation Covenant	WA
NTWA Bushland covenant (0173)	Conservation Covenant	WA
NTWA Bushland covenant (0178)	Conservation Covenant	WA
Penguin Island	Conservation Park	WA
Port Kennedy Scientific Park	Nature Reserve	WA
Quagering	Nature Reserve	WA
Quarram	Nature Reserve	WA
Recherche Archipelago	Nature Reserve	WA
Rottnest Island	State Reserve	WA
Shoalwater Bay Islands	Nature Reserve	WA

Protected Area Name		Reserve Type	State
Shoalwater Islands		Marine Park	WA
St Alouarn Island	Nature Reserve		WA
Stokes	National Park		WA
Sugar Loaf Rock	Nature Reserve		WA
Swan River	Management Area		WA
Torndirrup	National Park		WA
Two Peoples Bay	Nature Reserve		WA
Unnamed WA25836	Nature Reserve		WA
Unnamed WA26620	Nature Reserve		WA
Unnamed WA26885	Nature Reserve		WA
Unnamed WA27888	Nature Reserve		WA
Unnamed WA32478	5(1)(h) Reserve		WA
Unnamed WA41568	Nature Reserve		WA
Unnamed WA41597	Nature Reserve		WA
Unnamed WA42379	5(1)(h) Reserve		WA
Unnamed WA42469	Nature Reserve		WA
Unnamed WA42879	Nature Reserve		WA
Unnamed WA43903	Nature Reserve		WA
Unnamed WA44004	Nature Reserve		WA
Unnamed WA44676	5(1)(h) Reserve		WA
Unnamed WA44685	5(1)(h) Reserve		WA
Unnamed WA44709	5(1)(h) Reserve		WA
Unnamed WA48837	Nature Reserve		WA
Unnamed WA48955	5(1)(h) Reserve		WA
Unnamed WA48968	5(1)(h) Reserve		WA
Unnamed WA49220	Conservation Park		WA
Unnamed WA49385	Nature Reserve		WA

Protected Area Name	Reserve Type	State
Unnamed WA50017	Nature Reserve	WA
Walpole-Nornalup	National Park	WA
Waychinicup	National Park	WA
West Cape Howe	National Park	WA
Yalgorup	National Park	WA

Regional Forest Agreements
[Resource Information]

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

RFA Name	State
South West WA RFA	Western Australia

Nationally Important Wetlands
[Resource Information]

Wetland Name	State
Becher Point Wetlands	WA
Doggerup Creek System	WA
Rottnest Island Lakes	WA
Swan-Canning Estuary	WA
Vasse-Wonnerup Wetland System	WA

EPBC Act Referrals
[Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status
Fremantle District Police Complex Project	2022/09345	Completed	
H2Perth hydrogen and ammonia project	2023/09559	Completed	
Installation of additional potable water tank	2023/09518	Assessment	
Marine Route Survey for Subsea Fibre Optic Data Cable System - Australia West	2024/09826	Referral Decision	
WA Offshore Windfarm	2021/8961	Completed	

Controlled action			
Aerial Application of Lavicide to Vasse-Wonnerup Wetlands	2010/5593	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Airborne sonar trials	2001/540	Controlled Action	Completed
Albany Port Authority dredging project	2006/2540	Controlled Action	Post-Approval
All weather access track road between Windy Harbour and Nelson Location 7965	2011/6121	Controlled Action	Post-Approval
Busselton Foreshore Redevelopment from West Street to Ford Road	2013/6830	Controlled Action	Post-Approval
Cape View Resort at Lot 190 Little Colin Street	2006/3070	Controlled Action	Post-Approval
Construction of a Deepwater, General Container Port	2009/5178	Controlled Action	Proposed Decision
Construction of New Perth Bunbury Highway project	2005/2193	Controlled Action	Post-Approval
Dawson Beach Estate Stage 2	2005/2153	Controlled Action	Post-Approval
Development Guide Plan for 46 ha Residential Subdivision	2008/4102	Controlled Action	Post-Approval
Development of Busselton Health Campus	2011/6011	Controlled Action	Post-Approval
Development of Kwinana Quay port facility	2008/4387	Controlled Action	Completed
Develop Trails and a Wetlands Demonstration Site and Centre	2008/4439	Controlled Action	Post-Approval
Eastern Link Project, Busselton WA	2018/8155	Controlled Action	Post-Approval
Industry Zone	2010/5337	Controlled Action	Post-Approval
Lennox Weir Removal, 12kms west Busselton	2021/8915 Approach	Controlled Action	Assessment
Lower Vasse River Sediment Removal	2021/9051	Controlled Action	Post-Approval
Mangles Bay Marina Based Tourist Precinct	2010/5659	Controlled Action	Post-Approval
Neighbourhood Shopping Centre and Mixed Business Centre, Ocean Road, Dawesville	2006/3155	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Old Broadwater Farm Estate Subdivision - Stage 3	2009/5231	Controlled Action	Post-Approval
Peel's Retreat Estate - Residential development	2006/3063	Controlled Action	Post-Approval
Peppermint Park Residential Subdivision - Stage 5	2008/4028	Controlled Action	Post-Approval
Point Grey Marina Project	2010/5515	Controlled Action	Post-Approval
Point Grey Residential Development - Terrestrial Component	2011/5825	Controlled Action	Post-Approval
Ravensthorpe Nickel Project	2001/172	Controlled Action	Post-Approval
Residential Development, Lot 3 & 4 Dorsett Street	2006/2774	Controlled Action	Completed
Residential development Lot 3, 500 Bussell Highway, WA	2013/7098	Controlled Action	Post-Approval
Residential development Lots 8 & 9 King Street	2006/2787	Controlled Action	Completed
retirement units & aged care facility development	2007/3533	Controlled Action	Post-Approval
Shark Hazard Mitigation Drum Line Program, WA	2014/7174	Controlled Action	Completed
Shenton Park Subdivision	2004/1479	Controlled Action	Completed
Smiths Beach Project, Yallingup - Coastal Tourism Village	2021/9141	Controlled Action	Referral Publication
Southern Bluefin Tuna Farm	2005/2165	Controlled Action	Completed
Subdivision Lot 1 Dawesville Rd	2005/2394	Controlled Action	Post-Approval
Three Turning Pockets West of Busselton Townsite	2002/846	Controlled Action	Post-Approval
Tourism Villa Facility Development	2008/4025	Controlled Action	Post-Approval
tourist and residential development	2007/3483	Controlled Action	Post-Approval
Upgrade of Ford Road	2005/2113	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Urban development, multiple lots Northerly Street, Vasse, WA	2019/8494	Controlled Action	Assessment Approach
Vasse Diversion Drain Upgrade	2017/7932	Controlled Action	Post-Approval
Warders Hotel, Block 1 Warders Cottages, Fremantle, WA	2018/8144	Controlled Action	Post-Approval
Not controlled action			
'Looping 10' gas transmission pipeline from Kwinana to Hopelands	2005/2212 Action	Not Controlled	Completed
25 Lot Residential Subdivision Action	2009/4830	Not Controlled	Completed
Aerial application of mosquito larvicides to Vasse Wonnerup Wetlands, WA	2016/7780 Action	Not Controlled	Completed
APX-West Fibre-optic telecommunications cable system, WA to Singapore	2013/7102 Action	Not Controlled	Completed
Bushfire Mitigation Works - City of Mandurah	2020/8674 Action	Not Controlled	Completed
Busselton to Flinders Bay Rails to Trails Project, WA	2013/6835 Action	Not Controlled	Completed
Cape Naturaliste Road Shared Pathway, Dunsborough, WA	2018/8282 Action	Not Controlled	Completed
Causeway Bridge Duplication, Busselton, WA	2018/8309 Action	Not Controlled	Completed
Caves Road widening project between Dunsborough and Yallingup(20.3 -24.6 SLK), WA	2015/7475 Action	Not Controlled	Completed
Clear Lot 503, 54 Ocean Road Dawesville, WA	2014/7375 Action	Not Controlled	Completed
Construction and operation of an 8 turbine wind farm at Rous Head Harbour, Frema	2003/933 Action	Not Controlled	Completed
Construction of Secret Harbour High School	2004/1489 Action	Not Controlled	Completed
CTBT - Cape Leeuwin Hydroacoustic Station Proposal	2000/27 Action	Not Controlled	Completed
Disposal of residential properties, Fremantle, WA	2019/8593 Action	Not Controlled	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Eastport canal estate development stage 5	2007/3737 Action	Not Controlled	Completed
Establishment of a National Lifestyle Village	2011/6081 Action	Not Controlled	Completed
Expansion of berthing facilities at Kwinana Bulk Terminal	2006/2509 Action	Not Controlled	Completed
Expansion of existing Ammonium Nitrate Production Facility	2005/1941 Action	Not Controlled	Completed
Expedition 369-Australian Cretaceous Climate and Tectonics, Australian EEZ waters	2017/7891 Action	Not Controlled	Completed
Florida Estate Residential Subdivision Development Stage 13	2011/6045 Action	Not Controlled	Completed
Florida North residential development, Lot 9008, Ocean Road, Dawesville, WA	2015/7462 Action	Not Controlled	Completed
Fremantle Ports Inner Harbour Capital Dredging Proposal	2005/2477 Action	Not Controlled	Completed
Gas-fired Power Station	2005/2213	Not Controlled Action	Completed
Geo-science Investigations	2005/2069	Not Controlled	Completed
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522 Action	Not Controlled	Completed
INDIGO Central Submarine Telecommunications Cable	2017/8127 Action	Not Controlled	Completed
Kennedy Bay urban development, Port Kennedy, WA	2014/7122 Action	Not Controlled	Completed
Kennedy Park Estate Residential Development	2003/1044 Action	Not Controlled	Completed
Kwinana Gas-Fired Power Station	2005/2101	Not Controlled	Completed
Limestone quarry expansion	2005/2268	Not Controlled	Completed
Limestone Quarry Expansion, Lots 3618 and 1794, Finn Road	2005/2332 Action	Not Controlled	Completed
Lot 101 Mandurah Road, Madora Bay, WA	2012/6466 Action	Not Controlled	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Oman Australia Cable Installation, WA	2021/8922 Action	Not Controlled	Completed
Oman Australia Cable - Marine Route Survey	2020/8731 Action	Not Controlled	Completed
Palm Beach Caravan Park Redevelopment, Rockingham, WA	2013/6853 Action	Not Controlled	Completed
Redevelopment of Lots 3 & 4, Kent Street	2007/3243 Action	Not Controlled	Completed
Residential & Light Industrial Development, Vasse WA	2013/6932 Action	Not Controlled	Completed
Residential development, Lot 42, Farmhouse Court, Bovell, WA	2014/7195 Action	Not Controlled	Completed
Re-zoning of Land for Future Residential Development Purposes	2009/4908 Action	Not Controlled	Completed
Rottnest Lodge Redevelopment Action	2019/8565	Not Controlled	Completed
Seismic Survey, Bremer Basin, Mentelle Basin and Zeewyck Sub-basin	2004/1700 Action	Not Controlled	Completed
Sepia Depression Ocean Outlet Landline Duplication	2012/6248 Action	Not Controlled	Completed
Vasse Hotel and Supermarket Redevelopment	2001/288 Action	Not Controlled	Completed
Warders' Cottages Block 2 'W2' Action	2022/9148	Not Controlled	Completed
Warders' Cottages W2 minor works, Fremantle, WA	2018/8185 Action	Not Controlled	Completed
Wind Farm development	2005/2105	Not Controlled Action	Completed
Not controlled action (particular manner)			
2D seismic survey	2007/3273	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey	2008/4493	Not Controlled Action (Particular Manner)	Post-Approval

[3D Marine Seismic Survey Within
WA-382-P](#)2007/3799

Not Controlled
Action (Particular
Manner)

Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Aerial Mosquito Spraying Vasse-Wonnerup System	2005/1952	Not Controlled Action (Particular Manner)	Post-Approval
Ambergate North Residential Development	2009/4802	Not Controlled Action (Particular Manner)	Post-Approval
Arcadia Petroleum - BR12 3D Marine Seismic Survey	2012/6476	Not Controlled Action (Particular Manner)	Post-Approval
Australian Underwater Discovery Centre	2021/9019	Not Controlled Action (Particular Manner)	Post-Approval
Australia to Singapore Fibre Optic Submarine Cable System	2011/6127	Not Controlled Action (Particular Manner)	Post-Approval
Bremer Basin 2D Marine Seismic Survey, WA	2009/5013	Not Controlled Action (Particular Manner)	Post-Approval
CETO 6 Garden Island Project, offshore WA	2016/7635	Not Controlled Action (Particular Manner)	Post-Approval
CETO 6 Geophysical and Geotechnical Surveys	2014/7408	Not Controlled Action (Particular Manner)	Post-Approval
City of Cockburn Sporting Facilities	2005/2139	Not Controlled Action (Particular Manner)	Post-Approval
Construction of urea production plant and supporting infrastructure	2009/5067	Not Controlled Action (Particular Manner)	Post-Approval
Coodanup residential development	2006/3073	Not Controlled Action (Particular Manner)	Post-Approval
Extension of existing mains water supply pipeline	2009/4686	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Grand Southern Margin 2D Marine Seismic Survey	2008/4599	Not Controlled Action (Particular Manner)	Post-Approval
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval
Lake Richmond Boardwalk installation, Rockingham, WA	2013/6977	Not Controlled Action (Particular Manner)	Post-Approval
Laying a submarine optical fibre telecommunications cable, Perth to Singapore and Jakarta	2014/7332	Not Controlled Action (Particular Manner)	Post-Approval
Marine Environmental Survey 2012/6275	2012/6275	Not Controlled Action (Particular Manner)	Post-Approval
Monaghan's Roundabout Project - Intersection of Bussell Highway and Caves Road, Shire of Busselton	2007/3515	Not Controlled Action (Particular Manner)	Post-Approval
Multipurpose development stage 1 within 340ha	2004/1913	Not Controlled Action (Particular Manner)	Post-Approval
Novacare Lifestyle Village 2001/311	2001/311	Not Controlled Action (Particular Manner)	Post-Approval
Road upgrades and walk trail development	2009/4958	Not Controlled Action (Particular Manner)	Post-Approval
South Busselton Primary School 2001/290	2001/290	Not Controlled Action (Particular Manner)	Post-Approval
South West Metropolitan Railway Project	2003/1175	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Subdivision and development of residential dwelling on part Lot 1, Bussell Highw	2006/3023	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
3D Marine Seismic survey	2007/3725	Referral Decision	Completed
3D Seismic Survey	2012/6245	Referral Decision	Completed
Ambergate North Residential Community (4896 lots)	2008/4617	Referral Decision	Completed
CO2 3D Seismic Survey Vlaming Sub-Basin	2012/6343	Referral Decision	Completed
Grand Southern Margin 2D Marine Seismic Survey	2008/4573	Referral Decision	Completed
Kennedy Bay Urban Development,PortKennedy,Rockingh	2013/7022	Referral Decision	Completed
Lots 1-5 Bluerise Cove & Lots 801 & 124 Pleasant Grove Rezoning and Subdivision	2008/4295	Referral Decision	Completed
Narelle 3D Marine Seismic Survey	2008/4575	Referral Decision	Completed
Residential Subdivision Lot 801 Pleasant Grove Circle, Falcon, WA	2012/6507	Referral Decision	Referral Publication
Riverbank and Country Road Estates Lot 43 Bussell Highway	2005/2367	Referral Decision	Completed
Sonar Trials and Acoustic Trials	2001/538	Referral Decision	Completed
Water quality improvement trial, Lower Vasse River, Busselton, WA	2013/6975	Referral Decision	Completed

Key Ecological Features

[[Resource Information](#)]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Albany Canyons group and adjacent shelf break	South-west
Ancient coastline at 90-120m depth	South-west
Cape Mentelle upwelling	South-west

Name	Region
Commonwealth marine environment surrounding the Recherche Archipelago	South-west
Commonwealth marine environment within and adjacent	South-west to Geographe Bay
Commonwealth marine environment within and adjacent	South-west to the west coast inshore lagoons
Diamantina Fracture Zone	South-west
Naturaliste Plateau	South-west
Perth Canyon and adjacent shelf break, and other west coast canyons	South-west
Western demersal slope and associated fish communities	South-west
Western rock lobster	South-west

Biologically Important Areas			[Resource Information]
Scientific Name	Behaviour		Presence
Seabirds			
Ardenna carneipes			
Flesh-footed Shearwater [82404]	Aggregation	Known to occur	
Ardenna carneipes			
Flesh-footed Shearwater [82404]	Foraging (in high numbers)	Known to occur	
Ardenna pacifica			
Wedge-tailed Shearwater [84292]	Foraging (in high numbers)	Known to occur	
Ardenna tenuirostris			
Short-tailed Shearwater [82652]	Foraging (in high numbers)	Known to occur	
Eudyptula minor			
Little Penguin [1085] (provisioning young)	Foraging	Known to occur	
Hydroprogne caspia			
Caspian Tern [808] (provisioning young)	Foraging	Known to occur	
Larus pacificus			
Pacific Gull [811] high numbers)	Foraging (in	Former Range	

Scientific Name	Behaviour	Presence
Larus pacificus Pacific Gull [811] Foraging (in high numbers)		Known to occur
Onychoprion anaethetus Bridled Tern [82845] Foraging (in high numbers)		Known to occur
Onychoprion fuscata Sooty Tern [82847] Foraging	Known to occur	
Pelagodroma marina White-faced Storm petrel [1016] Foraging (in high numbers)		Known to occur
Phalacrocorax fuscescens Black-faced Cormorant [59660] Foraging	Known to occur	
Pterodroma macroptera macroptera Great-winged Petrel (macroptera race) [1035] Foraging (provisioning young)		Known to occur
Pterodroma mollis Soft-plumaged Petrel [1036] Foraging (in high numbers)		Known to occur
Puffinus assimilis tunneyi Little Shearwater [59363] Foraging (in high numbers)		Known to occur
Sterna dougallii Roseate Tern [817] Foraging	Known to occur	
Sternula nereis Fairy Tern [82949] Foraging (in high numbers)		Known to occur
Thalassarche chlororhynchos bassi Indian Yellow-nosed Albatross [85249] Foraging (in high numbers)		Known to occur
Seals Neophoca cinerea Australian Sea Lion [22] Foraging (male)		Likely to occur

Scientific Name	Behaviour	Presence
-----------------	-----------	----------

[Neophoca cinerea](#)

Australian Sea Lion [22] Foraging (male and female) Known to occur

[Neophoca cinerea](#)

Australian Sea Lion [22] Foraging (male and female) Likely to occur

Sharks [Carcharodon carcharias](#)

White Shark [64470] Foraging Known to occur

Whales [Balaenoptera musculus](#)

Blue and Pygmy Blue Whale [36] Foraging (abundant food source) Known to occur

[Balaenoptera musculus](#)

Blue and Pygmy Blue Whale [36] Foraging (high density) Known to occur

[Balaenoptera musculus](#)

Blue and Pygmy Blue Whale [36] Foraging (on migration) Known to occur

[Balaenoptera musculus brevipauda](#)

Pygmy Blue Whale [81317] Distribution Known to occur

[Balaenoptera musculus brevipauda](#)

Pygmy Blue Whale [81317] Foraging Area (annual high use area) Known to occur

[Balaenoptera musculus brevipauda](#)

Pygmy Blue Whale [81317] Known Foraging Area Known to occur

[Balaenoptera musculus brevipauda](#)

Pygmy Blue Whale [81317] Migration Known to occur

[Megaptera novaeangliae](#)

Humpback Whale [38] Migration (north) Known to occur

[Megaptera novaeangliae](#)

Humpback Whale [38] Migration (north and south) Known to occur

Scientific Name	Behaviour	Presence
Megaptera novaeangliae Humpback Whale [38] Migration (south)		Known to occur
Physeter macrocephalus Sperm Whale [59] Foraging (abundant food source)		Known to occur

Caveat

PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

World and National Heritage properties;

Wetlands of International and National Importance;

Commonwealth and State/Territory reserves;

distribution of listed threatened, migratory and marine species;

listed threatened ecological communities; and

other information that may be useful as an indicator of potential habitat value.

DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

threatened species listed as extinct or considered vagrants;

some recently listed species and ecological communities;

some listed migratory and listed marine species, which are not listed as threatened species; and

migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

[© Commonwealth of Australia](#)
[Department of Climate Change, Energy, the Environment and Water](#) GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 10-Jun-2024

- [Summary Details](#)
- [Matters of NES](#)
- [Other Matters Protected by the EPBC Act](#)
- [Extra Information](#)
- [Caveat](#)
- [Acknowledgements](#)

Figure 1: SWMR sub area 2 (labelled '3' and '4')



Summary

Matters of National Environment Significance This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	1
National Heritage Places:	3
Wetlands of International Importance (Ramsar	6
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	3
Listed Threatened Ecological Communities:	9
Listed Threatened Species:	141
Listed Migratory Species:	84

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	240
Commonwealth Heritage Places:	4
Listed Marine Species:	123
Whales and Other Cetaceans:	39
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	29
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	63
Regional Forest Agreements:	1
Nationally Important Wetlands:	5
EPBC Act Referrals:	131
Key Ecological Features (Marine):	11
Biologically Important Areas:	33
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties			[Resource Information]
Name	State	Legal Status	
Australian Convict Sites (Fremantle Prison)	WA	Declared property	

National Heritage Places			[Resource Information]
Name	State	Legal Status	
Historic			
Fremantle Prison (former)	WA	Listed place	
Indigenous			
Cheetup Rock Shelter	WA	Listed place	
Natural			
Fitzgerald River National Park	WA	Listed place	

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name		Proximity
Becher point wetlands		Within Ramsar site
Forrestdale and thomsons lakes		Within 10km of Ramsar site
Lake gore		Within Ramsar site
Lake warden system		Within 10km of Ramsar site
Peel-yalgorup system		Within Ramsar site
Vasse-wonnerup system		Within Ramsar site

Commonwealth Marine Area	[Resource Information]
Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.	
Feature Name	
Commonwealth Marine Areas (EPBC Act)	Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)	Commonwealth Marine Areas (EPBC Act)

Listed Threatened Ecological Communities

[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Aquatic Root Mat Community 3 in Caves of the Leeuwin Naturaliste Ridge	Endangered	Community known to occur within area
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area
Empodisma peatlands of southwestern Australia	Endangered	Community likely to occur within area
Honeymyrtle shrubland on limestone ridges of the Swan Coastal Plain Bioregion	Critically Endangered	Community likely to occur within area
Proteaceae Dominated Kwongan Shrublands of the Southeast Coastal Floristic Province of Western Australia	Endangered	Community likely to occur within area
Sedgeland in Holocene dune swales of the southern Swan Coastal Plain	Endangered	Community known to occur within area
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area
Thrombolite (microbial) community of coastal freshwater lakes of the Swan Coastal Plain (Lake Richmond)	Endangered	Community known to occur within area
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area

Listed Threatened Species

[Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act. Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Atrichornis clamosus Noisy Scrub-bird, Tjimiluk [654]	Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
Cereopsis novaehollandiae grisea Cape Barren Goose (south-western), Recherche Cape Barren Goose [25978]	Vulnerable	Breeding known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Dasyornis longirostris Western Bristlebird [515]	Endangered	Species or species habitat known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat likely to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Limosa limosa](#)

Black-tailed Godwit [845] Endangered Roosting known to occur within area

[Macronectes giganteus](#)

Southern Giant-Petrel, Southern Giant Endangered Species or species habitat may occur within area
Petrel [1060]

[Macronectes halli](#)

Northern Giant Petrel [1061] Vulnerable Foraging, feeding or related behaviour likely to occur within area

[Numenius madagascariensis](#) Eastern

Curlew, Far Eastern Curlew [847] Critically Endangered Species or species habitat known to occur within area

[Pachyptila turtur subantarctica](#)

Fairy Prion (southern) [64445] Vulnerable Species or species habitat known to occur within area

[Pezoporus flaviventris](#)

Western Ground Parrot, Kyloring [84650] Critically Endangered Species or species habitat may occur within area

[Phaethon rubricauda westralis](#)

Red-tailed Tropicbird (Indian Ocean), Endangered Species or species habitat known to occur within area
Indian Ocean Red-tailed Tropicbird
[91824]

[Phoebetria fusca](#)

Sooty Albatross [1075] Vulnerable Species or species habitat likely to occur within area

[Pluvialis squatarola](#)

Grey Plover [865] Vulnerable Roosting known to occur within area

[Psophodes nigrogularis nigrogularis](#)

Western Heath Whipbird [64449] Endangered Species or species habitat known to occur within area

[Pterodroma mollis](#)

Soft-plumaged Petrel [1036] Vulnerable Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Rostratula australis](#)

Australian Painted Snipe [77037] Endangered Species or species habitat known to occur within area

[Sternula nereis nereis](#)

Australian Fairy Tern [82950] Vulnerable Foraging, feeding or related behaviour known to occur within area

[Thalassarche carteri](#)

Indian Yellow-nosed Albatross [64464] Vulnerable Species or species habitat likely to occur within area

[Thalassarche cauta](#)

Shy Albatross [89224] Endangered Foraging, feeding or related behaviour likely to occur within area

[Thalassarche chrysostoma](#)

Grey-headed Albatross [66491] Endangered Species or species habitat may occur within area

[Thalassarche impavida](#)

Campbell Albatross, Campbell Black-browed Albatross [64459] Vulnerable Species or species habitat may occur within area

[Thalassarche melanophris](#)

Black-browed Albatross [66472] Vulnerable Foraging, feeding or related behaviour likely to occur within area

[Thalassarche steadi](#)

White-capped Albatross [64462] Vulnerable Species or species habitat may occur within area

[Tringa nebularia](#)

Common Greenshank, Greenshank [832] Endangered Species or species habitat known to occur within area

[Xenus cinereus](#)

Terek Sandpiper [59300] Vulnerable Roosting known to occur within area

[Zanda baudinii listed as Calyptorhynchus baudinii](#)

Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-cockatoo [87736] Endangered Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Zanda latirostris listed as Calyptorhynchus latirostris](#)

Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Breeding known to occur within area
---	------------	-------------------------------------

CRUSTACEAN

[Engaewa pseudoreducta](#)

Margaret River Burrowing Crayfish [82674]	Critically Endangered	Species or species habitat may occur within area
---	-----------------------	--

[Engaewa reducta](#)

Dunsborough Burrowing Crayfish [82675]	Critically Endangered	Species or species habitat may occur within area
--	-----------------------	--

FISH

[Galaxias truttaceus \(Western Australian population\)](#)

Western Trout Minnow [89857]	Endangered	Species or species habitat known to occur within area
------------------------------	------------	---

[Galaxiella nigrostriata](#)

Blackstriped Dwarf Galaxias, stripe Minnow [88677]	Black-Endangered	Species or species habitat known to occur within area
--	------------------	---

[Hoplostethus atlanticus](#)

Orange Roughy, Deep-sea Perch, Red Roughy [68455]	Conservation Dependent	Species or species habitat likely to occur within area
---	------------------------	--

[Nannatherina balstoni](#)

Balston's Pygmy Perch [66698]	Vulnerable	Species or species habitat known to occur within area
-------------------------------	------------	---

[Thunnus maccoyii](#)

Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat known to occur within area
-------------------------------	------------------------	---

INSECT

[Hesperocolletes douglasi](#)

Douglas' Broad-headed Bee, Rottnest Bee [66734]	Critically Endangered	Species or species habitat may occur within area
---	-----------------------	--

[Trioza barrettae](#)

Banksia brownii plant louse [87805]	Endangered	Species or species habitat known to occur within area
-------------------------------------	------------	---

MAMMAL

Scientific Name	Threatened Category	Presence Text
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Foraging, feeding or related behaviour known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Bettongia penicillata ogilbyi Woylie [66844]	Endangered	Species or species habitat known to occur within area
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area
Myrmecobius fasciatus Numbat [294]	Endangered	Species or species habitat may occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Breeding known to occur within area
Parantechinus apicalis Dibbler [313]	Endangered	Species or species habitat known to occur within area
Petrogale lateralis hacketti Recherche Rock-wallaby [66849]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Petrogale lateralis lateralis](#)
 Black-flanked Rock-wallaby, Moorong, Endangered Translocated population known to occur within area
 Black-footed Rock Wallaby [66647]

[Phascogale calura](#)
 Red-tailed Phascogale, Red-tailed Wambenger, Kenngoor [316] Vulnerable Species or species habitat may occur within area

[Potorous gilbertii](#)
 Gilbert's Potoroo, Ngilkat [66642] Critically Endangered Species or species habitat known to occur within area

[Pseudocheirus occidentalis](#) Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911] Critically Endangered Breeding known to occur within area

[Pseudomys shortridgei](#)
 Heath Mouse, Dayang, Heath Rat [77] Endangered Species or species habitat likely to occur within area

[Setonix brachyurus](#)
 Quokka [229] Vulnerable Species or species habitat known to occur within area

OTHER
[Westralunio carteri](#)
 Carter's Freshwater Mussel, Freshwater Mussel [86266] Vulnerable Species or species habitat known to occur within area

PLANT
[Adenanthos dobagii](#)
 Fitzgerald Woollybush [21253]Endangered Species or species habitat likely to occur within area

[Adenanthos ellipticus](#)
 Oval-leaf Adenanthos [4570] Vulnerable Species or species habitat likely to occur within area

[Andersonia gracilis](#)
 Slender Andersonia [14470] Endangered Species or species habitat may occur within area

[Andersonia pinaster](#)
 Two Peoples Bay Andersonia [67444] Vulnerable Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Anigozanthos bicolor subsp. minor](#)
 Little Kangaroo Paw, Two-coloured Kangaroo Paw, Small Two-colour Kangaroo Paw [21241]

Endangered
 Species or species habitat likely to occur within area

[Banksia brownii](#)
 Brown's Banksia, Feather-leaved Banksia [8277]

Critically Endangered
 Species or species habitat known to occur within area

[Banksia nivea subsp. uliginosa](#)
 Swamp Honeypot [82766]

Endangered
 Species or species habitat may occur within area

[Banksia squarrosa subsp. argillacea](#)
 Whicher Range Dryandra [82769]

Vulnerable
 Species or species habitat likely to occur within area

[Banksia verticillata](#)
 Granite Banksia, Albany Banksia, River Banksia [8333]

Vulnerable
 Species or species habitat known to occur within area

[Boronia clavata](#)
 Bremer Boronia [5538]

Endangered
 Species or species habitat may occur within area

[Brachyscias verecundus](#)
 Ironstone Brachyscias [81321]

Critically Endangered
 Species or species habitat may occur within area

[Caladenia busselliana](#)
 Bussell's Spider-orchid [24369]

Endangered
 Species or species habitat likely to occur within area

[Caladenia caesarea subsp. maritima](#)
 Cape Spider-orchid [64856]

Endangered
 Species or species habitat known to occur within area

[Caladenia excelsa](#)
 Giant Spider-orchid [56717]

Endangered
 Species or species habitat likely to occur within area

[Caladenia granitora](#)
 [65292]

Endangered
 Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Caladenia harringtoniae](#)
Harrington's Spider-orchid, Pink Spider-orchid [56786]

Vulnerable

Species or species habitat may occur within area

[Caladenia huegelii](#)
King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]

Endangered

Species or species habitat known to occur within area

[Caladenia lodgeana](#)
Lodge's Spider-orchid [68664]

Critically Endangered

Species or species habitat likely to occur within area

[Caladenia procera](#)
Carbunup King Spider Orchid [68679]

Critically Endangered

Species or species habitat known to occur within area

[Caladenia viridescens](#)
Dunsborough Spider-orchid [56776]

Endangered

Species or species habitat known to occur within area

[Calectasia cyanea](#)
Blue Tinsel Lily [7669]

Critically Endangered

Species or species habitat likely to occur within area

[Chamelaucium lullfitzii listed as Chamelaucium sp. Gingin \(N.G.Marchant 6\)](#)
Gingin Wax [92777] Gingin

Endangered (listed as Chamelaucium sp.

Species or species habitat likely to occur within area

[Chamelaucium sp. S coastal plain \(R.D.Royce 4872\)](#)
Royce's Waxflower [87814]

Vulnerable

Species or species habitat likely to occur within area

[Chordifex abortivus](#)
Manypeaks Rush [64868]

Endangered

Species or species habitat likely to occur within area

[Commersonia apella](#)
Many-flowered Commersonia [86877]

Critically Endangered

Species or species habitat known to occur within area

[Coopernookia georgei](#)
Mauve Coopernookia [21218]

Endangered

Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Daviesia obovata Paddle-leaf Daviesia [17311]	Endangered	Species or species habitat likely to occur within area
Diuris drummondii Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat likely to occur within area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat known to occur within area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat may occur within area
Drakaea elastica Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus argutifolia Yanchep Mallee, Wabling Hill Mallee [24263]	Vulnerable	Species or species habitat may occur within area
Eucalyptus insularis Twin Peak Island Mallee [3057]	Endangered	Species or species habitat likely to occur within area
Eucalyptus x phylacis Meelup Mallee [87817]	Endangered	Species or species habitat known to occur within area
Gastrolobium papilio Butterfly-leaved Gastrolobium [78415]	Endangered	Species or species habitat may occur within area
Grevillea elongata Ironstone Grevillea [64578]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Grevillea infundibularis Fan-leaf Grevillea [5772]	Endangered	Species or species habitat likely to occur within area
Isopogon uncinatus Albany Cone Bush, Hook-leaf Isopogon [20871]	Endangered	Species or species habitat likely to occur within area
Kennedia glabrata Northcliffe Kennedia [16452]	Vulnerable	Species or species habitat known to occur within area
Lambertia echinata subsp. echinata Prickly Honeysuckle [56729]	Endangered	Species or species habitat known to occur within area
Lambertia echinata subsp. occidentalis Western Prickly Honeysuckle [64528]	Endangered	Species or species habitat may occur within area
Morelotia australiensis listed as Tetraria australiensis Southern Tetraria [92784]	Vulnerable	Species or species habitat may occur within area
Petrophile latericola Laterite Petrophile [64532]	Endangered	Species or species habitat may occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area
Reedia spathacea Reedia [2995]	Critically Endangered	Species or species habitat may occur within area
Ricinocarpos trichophorus Barrens Wedding Bush [19931]	Endangered	Species or species habitat may occur within area
Sphenotoma drummondii Mountain Paper-heath [21160]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Stylidium galioides Yellow Mountain Triggerplant [4666]	Vulnerable	Species or species habitat may occur within area
Synaphea sp. Fairbridge Farm (D.Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat may occur within area
Verticordia crebra [55678]	Vulnerable	Species or species habitat likely to occur within area
Verticordia densiflora var. pedunculata Long-stalked Featherflower [55689]	Endangered	Species or species habitat may occur within area
Verticordia plumosa var. ananeotes Tufted Plumed Featherflower [23871]	Endangered	Species or species habitat may occur within area
Verticordia plumosa var. vassensis Vasse Featherflower [55804]	Endangered	Species or species habitat may occur within area
Wurmbea calcicola Naturaliste Nancy [64691]	Endangered	Species or species habitat known to occur within area

REPTILE

Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

SHARK

Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Congregation or aggregation known to occur within area
---	------------	--

Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
--	------------	---

Centrophorus uyato Little Gulper Shark [68446]	Conservation Dependent	Species or species habitat likely to occur within area
---	------------------------	--

Galeorhinus galeus School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark [68453]	Conservation Dependent	Species or species habitat may occur within area
--	------------------------	--

Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
--	------------	--

Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
--	------------	--

Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat known to occur within area
--	------------------------	---

Listed Migratory Species	[Resource Information]	
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds Common Noddy [825]	Anous stolidus Species or species habitat likely to occur within area	
Apus pacificus Fork-tailed Swift [678]	Species or species habitat likely to occur within area	

Scientific Name	Threatened Category	Presence Text
Ardena carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Breeding known to occur within area
Ardena grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area
Ardena pacifica Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Ardena tenuirostris Short-tailed Shearwater [82652]		Breeding known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat likely to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Hydroprogne caspia Caspian Tern [808]		Breeding known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Onychoprion anaethetus Bridled Tern [82845]		Breeding known to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat likely to occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche chrysostoma Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Thalassarche steady](#)

White-capped Albatross [64462] Vulnerable Species or species habitat may occur within area

Migratory Marine Species [Balaenoptera bonaerensis](#)

Antarctic Minke Whale, Dark-shoulder Minke Whale [67812] Species or species habitat likely to occur within area

[Balaenoptera borealis](#)

Sei Whale [34] Vulnerable Foraging, feeding or related behaviour likely to occur within area

[Balaenoptera edeni](#)

Bryde's Whale [35] Species or species habitat likely to occur within area

[Balaenoptera musculus](#)

Blue Whale [36] Endangered Foraging, feeding or related behaviour known to occur within area

[Balaenoptera physalus](#)

Fin Whale [37] Vulnerable Foraging, feeding or related behaviour likely to occur within area

[Caperea marginata](#)

Pygmy Right Whale [39] Foraging, feeding or related behaviour likely to occur within area

[Carcharhinus longimanus](#)

Oceanic Whitetip Shark [84108] Species or species habitat likely to occur within area

[Carcharodon carcharias](#)

White Shark, Great White Shark [64470] Vulnerable Foraging, feeding or related behaviour known to occur within area

[Caretta caretta](#)

Loggerhead Turtle [1763]Endangered Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat likely to occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]		Foraging, feeding or related behaviour known to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Physeter macrocephalus Sperm Whale [59]		Foraging, feeding or related behaviour known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Migratory Terrestrial Species Motacilla cinerea Grey Wagtail [642]		Species or species habitat known to occur within area
Migratory Wetlands Species Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Calidris pugnax as Philomachus pugnax Ruff [91256]		Roosting known to occur within area
Calidris ruficollis Red-necked Stint [860]	Roosting known to occur within area	
Calidris subminuta Long-toed Stint [861]	Roosting known to occur within area	
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]	Roosting known to occur within area	
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Gallinago megala Swinhoe's Snipe [864]	Roosting likely to occur within area	
Gallinago stenura Pin-tailed Snipe [841]	Roosting likely to occur within area	
Glareola maldivarum Oriental Pratincole [840]	Species or species habitat known to occur within area	
Limicola falcinellus Broad-billed Sandpiper [842]	Roosting known to occur within area	
Limosa lapponica Bar-tailed Godwit [844]	Species or species habitat known to occur within area	
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Phalaropus lobatus Red-necked Phalarope [838]		Roosting known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Xenus cinereus		
Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Lands	[Resource Information]
--------------------	--------------------------

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State
Defence	

Defence - ARTILLERY BARRACKS - FREMANTLE [50155] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50183] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50185] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50184] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50186] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50181] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50187] WA Defence - CAMPBELL BARRACKS - SWANBOURNE [50182] WA

Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN WA ISLAND [50117]

Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN WA ISLAND [50134]

Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN WA ISLAND [50133]

Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN WA ISLAND [50131]

Defence - HMAS STIRLING-ROCKINGHAM ;HMAS STIRLING - GARDEN WA ISLAND [50132]

Defence - ROCKINGHAM - NAVY CPSO [50135] WA

Defence - SWANBOURNE RIFLE RANGE [50188]WA

Commonwealth Land Name		State
Defence - SWANBOURNE RIFLE RANGE [50191]		WA
Unknown	Commonwealth Land - [50495]	WA
Commonwealth Land - [50505]		WA
Commonwealth Land - [50424]		WA
Commonwealth Land - [50493]		WA
Commonwealth Land - [50507]		WA
Commonwealth Land - [50506]		WA
Commonwealth Land - [50487]		WA
Commonwealth Land - [50483]		WA
Commonwealth Land - [50425]		WA
Commonwealth Land - [50473]		WA
Commonwealth Land - [50564]		WA
Commonwealth Land - [50566]		WA
Commonwealth Land - [50567]		WA
Commonwealth Land - [50467]		WA
Commonwealth Land - [50551]		WA
Commonwealth Land - [50558]		WA
Commonwealth Land - [50431]		WA
Commonwealth Land - [50550]		WA
Commonwealth Land - [50633]		WA
Commonwealth Land - [50437]		WA
Commonwealth Land - [50422]		WA
Commonwealth Land - [50518]		WA
Commonwealth Land - [51105]		WA
Commonwealth Land - [50605]		WA
Commonwealth Land - [51437]		WA

Commonwealth Land Name		State
Commonwealth Land - [50579]		WA
Commonwealth Land - [50631]	WA	
Commonwealth Land - [50638]	WA	
Commonwealth Land - [50517]	WA	
Commonwealth Land - [50470]	WA	
Commonwealth Land - [50478]	WA	
Commonwealth Land - [50510]	WA	
Commonwealth Land - [50511]	WA	
Commonwealth Land - [50412]	WA	
Commonwealth Land - [50501]	WA	
Commonwealth Land - [50498]	WA	
Commonwealth Land - [50416]	WA	
Commonwealth Land - [50504]	WA	
Commonwealth Land - [50419]	WA	
Commonwealth Land - [50418]	WA	
Commonwealth Land - [50503]	WA	
Commonwealth Land - [50496]	WA	
Commonwealth Land - [50628]	WA	
Commonwealth Land - [50629]	WA	
Commonwealth Land - [50573]	WA	
Commonwealth Land - [50446]	WA	
Commonwealth Land - [50485]	WA	
Commonwealth Land - [50608]	WA	
Commonwealth Land - [50600]	WA	
Commonwealth Land - [51889]	WA	
Commonwealth Land - [50500]	WA	
Commonwealth Land - [50486]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50475]		WA
Commonwealth Land - [50456]	WA	
Commonwealth Land - [50457]	WA	
Commonwealth Land - [52281]	WA	
Commonwealth Land - [50455]	WA	
Commonwealth Land - [50529]	WA	
Commonwealth Land - [50471]	WA	
Commonwealth Land - [50525]	WA	
Commonwealth Land - [50522]	WA	
Commonwealth Land - [50570]	WA	
Commonwealth Land - [50527]	WA	
Commonwealth Land - [51890]	WA	
Commonwealth Land - [50571]	WA	
Commonwealth Land - [50492]	WA	
Commonwealth Land - [50452]	WA	
Commonwealth Land - [50624]	WA	
Commonwealth Land - [50621]	WA	
Commonwealth Land - [50620]	WA	
Commonwealth Land - [50623]	WA	
Commonwealth Land - [50622]	WA	
Commonwealth Land - [50450]	WA	
Commonwealth Land - [50451]	WA	
Commonwealth Land - [50454]	WA	
Commonwealth Land - [50458]	WA	
Commonwealth Land - [50639]	WA	
Commonwealth Land - [50632]	WA	
Commonwealth Land - [50463]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50589]		WA
Commonwealth Land - [51480]	WA	
Commonwealth Land - [50634]	WA	
Commonwealth Land - [50635]	WA	
Commonwealth Land - [50466]	WA	
Commonwealth Land - [50464]	WA	
Commonwealth Land - [51487]	WA	
Commonwealth Land - [50557]	WA	
Commonwealth Land - [50569]	WA	
Commonwealth Land - [50401]	WA	
Commonwealth Land - [50539]	WA	
Commonwealth Land - [50538]	WA	
Commonwealth Land - [50531]	WA	
Commonwealth Land - [50530]	WA	
Commonwealth Land - [50533]	WA	
Commonwealth Land - [50415]	WA	
Commonwealth Land - [52119]	WA	
Commonwealth Land - [50438]	WA	
Commonwealth Land - [50613]	WA	
Commonwealth Land - [50389]	WA	
Commonwealth Land - [50442]	WA	
Commonwealth Land - [50443]	WA	
Commonwealth Land - [50441]	WA	
Commonwealth Land - [50447]	WA	
Commonwealth Land - [52200]	WA	
Commonwealth Land - [50484]	WA	
Commonwealth Land - [50523]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50387]		WA
Commonwealth Land - [51987]	WA	
Commonwealth Land - [50388]	WA	
Commonwealth Land - [50434]	WA	
Commonwealth Land - [50449]	WA	
Commonwealth Land - [50536]	WA	
Commonwealth Land - [50433]	WA	
Commonwealth Land - [50432]	WA	
Commonwealth Land - [50580]	WA	
Commonwealth Land - [50581]	WA	
Commonwealth Land - [50617]	WA	
Commonwealth Land - [50526]	WA	
Commonwealth Land - [50465]	WA	
Commonwealth Land - [51411]	WA	
Commonwealth Land - [51117]	WA	
Commonwealth Land - [50524]	WA	
Commonwealth Land - [52242]	WA	
Commonwealth Land - [51895]	WA	
Commonwealth Land - [50565]	WA	
Commonwealth Land - [50404]	WA	
Commonwealth Land - [50619]	WA	
Commonwealth Land - [50618]	WA	
Commonwealth Land - [50611]	WA	
Commonwealth Land - [50610]	WA	
Commonwealth Land - [50614]	WA	
Commonwealth Land - [50612]	WA	
Commonwealth Land - [50616]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50615]		WA
Commonwealth Land - [50453]	WA	
Commonwealth Land - [50568]	WA	
Commonwealth Land - [51891]	WA	
Commonwealth Land - [51894]	WA	
Commonwealth Land - [51892]	WA	
Commonwealth Land - [51893]	WA	
Commonwealth Land - [50535]	WA	
Commonwealth Land - [50532]	WA	
Commonwealth Land - [50537]	WA	
Commonwealth Land - [50534]	WA	
Commonwealth Land - [50509]	WA	
Commonwealth Land - [52279]	WA	
Commonwealth Land - [50627]	WA	
Commonwealth Land - [50497]	WA	
Commonwealth Land - [50637]	WA	
Commonwealth Land - [50459]	WA	
Commonwealth Land - [50476]	WA	
Commonwealth Land - [50474]	WA	
Commonwealth Land - [50578]	WA	
Commonwealth Land - [50477]	WA	
Commonwealth Land - [50577]	WA	
Commonwealth Land - [50572]	WA	
Commonwealth Land - [50479]	WA	
Commonwealth Land - [50591]	WA	
Commonwealth Land - [50590]	WA	
Commonwealth Land - [50604]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50599]		WA
Commonwealth Land - [50603]	WA	
Commonwealth Land - [50601]	WA	
Commonwealth Land - [50472]	WA	
Commonwealth Land - [50491]	WA	
Commonwealth Land - [50597]	WA	
Commonwealth Land - [50595]	WA	
Commonwealth Land - [50512]	WA	
Commonwealth Land - [50462]	WA	
Commonwealth Land - [50516]	WA	
Commonwealth Land - [50520]	WA	
Commonwealth Land - [50481]	WA	
Commonwealth Land - [50480]	WA	
Commonwealth Land - [50488]	WA	
Commonwealth Land - [50482]	WA	
Commonwealth Land - [50423]	WA	
Commonwealth Land - [50390]	WA	
Commonwealth Land - [50427]	WA	
Commonwealth Land - [50521]	WA	
Commonwealth Land - [50444]	WA	
Commonwealth Land - [50428]	WA	
Commonwealth Land - [50641]	WA	
Commonwealth Land - [50640]	WA	
Commonwealth Land - [52199]	WA	
Commonwealth Land - [50421]	WA	
Commonwealth Land - [50609]	WA	
Commonwealth Land - [50420]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50499]		WA
Commonwealth Land - [50514]	WA	
Commonwealth Land - [50490]	WA	
Commonwealth Land - [50548]	WA	
Commonwealth Land - [50549]	WA	
Commonwealth Land - [50544]	WA	
Commonwealth Land - [50545]	WA	
Commonwealth Land - [50546]	WA	
Commonwealth Land - [51974]	WA	
Commonwealth Land - [50528]	WA	
Commonwealth Land - [51116]	WA	
Commonwealth Land - [51115]	WA	
Commonwealth Land - [50468]	WA	
Commonwealth Land - [51436]	WA	
Commonwealth Land - [50602]	WA	
Commonwealth Land - [51113]	WA	
Commonwealth Land - [50552]	WA	
Commonwealth Land - [51119]	WA	
Commonwealth Land - [50543]	WA	
Commonwealth Land - [50542]	WA	
Commonwealth Land - [50417]	WA	
Commonwealth Land - [50596]	WA	
Commonwealth Land - [50555]	WA	
Commonwealth Land - [50556]	WA	
Commonwealth Land - [50554]	WA	
Commonwealth Land - [50547]	WA	
Commonwealth Land - [50540]	WA	

Commonwealth Land Name		State
Commonwealth Land - [50541]		WA
Commonwealth Land - [50469]	WA	
Commonwealth Land - [51488]	WA	
Commonwealth Land - [50636]	WA	
Commonwealth Land - [50445]	WA	
Commonwealth Land - [50460]	WA	
Commonwealth Land - [50513]	WA	
Commonwealth Land - [50515]	WA	
Commonwealth Land - [50519]	WA	
Commonwealth Land - [50461]	WA	

Commonwealth Heritage Places			[Resource Information]
Name	State	Status	
Historic			
Artillery Barracks	WA	Listed place	
Cliff Point Historic Site	WA	Listed place	
J Gun Battery	WA	Listed place	
Natural			
Garden Island	WA	Listed place	

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence	Text
Bird Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat known to occur within area	
Anous stolidus			
Common Noddy [825]		Species or species habitat likely to occur within area	
Anous tenuirostris melanops			
Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area	

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Apus pacificus](#)

Fork-tailed Swift [678] Species or species habitat likely to occur within area overfly marine area

[Ardenna carneipes as Puffinus carneipes](#)

Flesh-footed Shearwater, Fleshy-footed Shearwater [82404] Breeding known to occur within area

[Ardenna grisea as Puffinus griseus](#)

Sooty Shearwater [82651] Vulnerable Species or species habitat may occur within area

[Ardenna pacifica as Puffinus pacificus](#)

Wedge-tailed Shearwater [84292] Breeding known to occur within area

[Ardenna tenuirostris as Puffinus tenuirostris](#)

Short-tailed Shearwater [82652] Breeding known to occur within area

[Arenaria interpres](#)

Ruddy Turnstone [872] Vulnerable Roosting known to occur within area

[Bubulcus ibis as Ardea ibis](#)

Cattle Egret [66521] Species or species habitat may occur within area overfly marine area

[Calidris acuminata](#)

Sharp-tailed Sandpiper [874] Vulnerable Roosting known to occur within area

[Calidris alba](#)

Sanderling [875] Roosting known to occur within area

[Calidris canutus](#)

Red Knot, Knot [855] Vulnerable Species or species habitat known to occur within area overfly marine area

[Calidris ferruginea](#)

Curlew Sandpiper [856] Critically Endangered Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Calidris melanotos](#)

Pectoral Sandpiper [858] Species or species habitat known to occur within area overfly marine area

[Calidris pugnax as Philomachus pugnax](#)

Ruff [91256] Roosting known to occur within area overfly marine area

[Calidris ruficollis](#)

Red-necked Stint [860] Roosting known to occur within area overfly marine area

[Calidris subminuta](#)

Long-toed Stint [861] Roosting known to occur within area overfly marine area

[Calidris tenuirostris](#)

Great Knot [862] Vulnerable Roosting known to occur within area overfly marine area

[Cereopsis novaehollandiae grisea](#) Cape

Barren Goose (south-western), Vulnerable Breeding known to occur within area overfly marine area
Recherche Cape Barren Goose [25978]

[Chalcites osculans as Chrysococcyx osculans](#)

Black-eared Cuckoo [83425] Species or species habitat likely to occur within area overfly marine area

[Charadrius bicinctus](#)

Double-banded Plover [895] Roosting known to occur within area overfly marine area

[Charadrius leschenaultii](#)

Greater Sand Plover, Large Sand Plover Vulnerable Species or species habitat known to occur within area
[877]

[Charadrius mongolus](#)

Lesser Sand Plover, Mongolian Plover Endangered Roosting known to occur within area
[879]

[Charadrius ruficapillus](#)

Red-capped Plover [881] Roosting known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Chroicocephalus novaehollandiae as Larus novaehollandiae		
Silver Gull [82326]	Breeding known to occur within area	
Diomedea amsterdamensis		
Amsterdam Albatross [64405]	Endangered	Species or species habitat likely to occur within area
Diomedea antipodensis		
Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena		
Tristan Albatross [66471]	Endangered	Species or species habitat likely to occur within area
Diomedea epomophora		
Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans		
Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi		
Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Eudyptula minor		
Little Penguin [1085]	Breeding known to occur within area	
Gallinago megala		
Swinhoe's Snipe [864]	Roosting likely to occur within area overfly marine area	
Gallinago stenura		
Pin-tailed Snipe [841]	Roosting likely to occur within area overfly marine area	
Glareola maldivarum		
Oriental Pratincole [840]	Species or species habitat known to occur within area overfly marine area	

Scientific Name	Threatened Category	Presence Text
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Breeding known to occur within area
Larus dominicanus Kelp Gull [809]		Breeding known to occur within area
Larus pacificus Pacific Gull [811]		Breeding known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area overfly marine area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Merops ornatus](#)

Rainbow Bee-eater [670] Species or species habitat may occur within area overfly marine area

[Motacilla cinerea](#)

Grey Wagtail [642] Species or species habitat known to occur within area overfly marine area

[Numenius madagascariensis](#) Eastern

Curlew, Far Eastern Curlew [847] Critically Endangered Species or species habitat known to occur within area

[Numenius minutus](#)

Little Curlew, Little Whimbrel [848] Roosting likely to occur within area overfly marine area

[Numenius phaeopus](#)

Whimbrel [849]Roosting known to occur within area

[Onychoprion anaethetus](#) as [Sterna anaethetus](#)

Bridled Tern [82845] Breeding known to occur within area

[Onychoprion fuscatus](#) as [Sterna fuscata](#)

Sooty Tern [90682] Breeding known to occur within area

[Pachyptila turtur](#)

Fairy Prion [1066] Species or species habitat known to occur within area

[Pandion haliaetus](#)

Osprey [952] Breeding known to occur within area

[Pelagodroma marina](#)

White-faced Storm-Petrel [1016] Breeding known to occur within area

[Phaethon rubricauda](#)

Red-tailed Tropicbird [994] Breeding known to occur within area

[Phalacrocorax fuscescens](#)

Black-faced Cormorant [59660] Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Phalaropus lobatus Red-necked Phalarope [838]		Roosting known to occur within area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat likely to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area overfly marine area
Pterodroma macroptera Great-winged Petrel [1035]		Breeding known to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Puffinus assimilis Little Shearwater [59363]		Breeding known to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area overfly marine area
Stercorarius antarcticus as Catharacta skua Brown Skua [85039]		Species or species habitat may occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area
Sternula albifrons as Sterna albifrons Little Tern [82849]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Sternula nereis as Sterna nereis Fairy Tern [82949]		Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche chrysostoma Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area
Thalasseus bergii as Sterna bergii Greater Crested Tern [83000]		Breeding known to occur within area
Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735]		Species or species habitat known to occur within area overfly marine area
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area overfly marine area
Xenus cinereus Terek Sandpiper [59300] Vulnerable		Roosting known to occur within area overfly marine area
Fish Acentronura australe Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
Campichthys galei Gale's Pipefish [66191]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Hippocampus subelongatus](#)

West Australian Seahorse [66722] Species or species habitat may occur within area

[Histiogamphelus cristatus](#)

Rhino Pipefish, Macleay's Crested
Pipefish, Ring-back Pipefish [66243] Species or species habitat may occur within area

[Leptoichthys fistularius](#)

Brushtail Pipefish [66248] Species or species habitat may occur within area

[Lissocampus caudalis](#)

Australian Smooth Pipefish, Smooth
Pipefish [66249] Species or species habitat may occur within area

[Lissocampus fatiloquus](#)

Prophet's Pipefish [66250] Species or species habitat may occur within area

[Lissocampus runa](#)

Javelin Pipefish [66251] Species or species habitat may occur within area

[Maroubra perserrata](#)

Sawtooth Pipefish [66252] Species or species habitat may occur within area

[Mitotichthys meraculus](#)

Western Crested Pipefish [66259] Species or species habitat may occur within area

[Nannocampus subosseus](#)

Bonyhead Pipefish, Bony-headed
Pipefish [66264] Species or species habitat may occur within area

[Notiocampus ruber](#)

Red Pipefish [66265] Species or species habitat may occur within area

[Phycodurus eques](#)

Leafy Seadragon [66267]Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Phyllopteryx taeniolatus](#)
Common Seadragon, Weedy Seadragon
[66268]

Species or species habitat may occur within area

[Pugnaso curtirostris](#)
Pugnose Pipefish, Pug-nosed Pipefish
[66269]

Species or species habitat may occur within area

[Solegnathus lettiensis](#)
Gunther's Pipehorse, Indonesian Pipefish
[66273]

Species or species habitat may occur within area

[Stigmatopora argus](#)
Spotted Pipefish, Gulf Pipefish, Peacock Pipefish
[66276]

Species or species habitat may occur within area

[Stigmatopora nigra](#)
Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish
[66277]

Species or species habitat may occur within area

[Syngnathoides biaculeatus](#)
Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish
[66279]

Species or species habitat may occur within area

[Urocampus carinirostris](#)
Hairy Pipefish [66282]

Species or species habitat may occur within area

[Vanacampus margaritifer](#)
Mother-of-pearl Pipefish [66283]

Species or species habitat may occur within area

[Vanacampus phillipi](#)
Port Phillip Pipefish [66284]

Species or species habitat may occur within area

[Vanacampus poecilolaemus](#) Longsnout Pipefish, Australian Long- snout Pipefish, Long-snouted Pipefish
[66285]

Species or species habitat may occur within area

Mammal [Arctocephalus forsteri](#)
Long-nosed Fur-seal, New Zealand Fur-seal
[20]

Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
-----------------	---------------------	---------------

[Neophoca cinerea](#)
 Australian Sea-lion, Australian Sea Lion Endangered Breeding known to occur within area [22]

Reptile [Aipysurus pooleorum](#)
 Shark Bay Sea Snake [66061] Species or species habitat may occur within area

[Caretta caretta](#)
 Loggerhead Turtle [1763]Endangered Foraging, feeding or related behaviour known to occur within area

[Chelonia mydas](#)
 Green Turtle [1765] Vulnerable Foraging, feeding or related behaviour known to occur within area

[Dermochelys coriacea](#)
 Leatherback Turtle, Leathery Turtle, LuthEndangered Foraging, feeding or related behaviour known to occur [1768] within area

[Hydrophis kingii as Disteira kingii](#)
 Spectacled Sea Snake [93511] Species or species habitat may occur within area

[Hydrophis platura as Pelamis platurus](#)
 Yellow-bellied Sea Snake [93746] Species or species habitat may occur within area

[Natator depressus](#)
 Flatback Turtle [59257] Vulnerable Foraging, feeding or related behaviour known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence

Mammal [Balaenoptera acutorostrata](#)
 Minke Whale [33] Species or species habitat may occur within area

[Balaenoptera bonaerensis](#)
 Antarctic Minke Whale, Dark-shoulder Species or species habitat likely to occur
 Minke Whale [67812]

Current Scientific Name	Status	Type of Presence
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Foraging, feeding or related behaviour known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Berardius arnuxii Arnoux's Beaked Whale [70]		Species or species habitat may occur within area
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Globicephala melas Long-finned Pilot Whale [59282]		Species or species habitat may occur

Current Scientific Name	Status	Type of Presence
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Hyperoodon planifrons Southern Bottlenose Whale [71]	Species or species habitat may occur within area	
Kogia breviceps Pygmy Sperm Whale [57]	Species or species habitat may occur within area	
Kogia sima Dwarf Sperm Whale [85043]	Species or species habitat may occur within area	
Lagenorhynchus obscurus Dusky Dolphin [43]	Species or species habitat likely to occur within area	
Lissodelphis peronii Southern Right Whale Dolphin [44]	Species or species habitat may occur within area	
Megaptera novaeangliae Humpback Whale [38]	Foraging, feeding or related behaviour known to occur within area	
Mesoplodon bowdoini Andrew's Beaked Whale [73]	Species or species habitat may occur within area	
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Mesoplodon ginkgodens Ginkgo-toothed Beaked Whale, Ginkgo-toothed Whale, Ginkgo Beaked Whale [59564]		Species or species habitat may occur within area
Mesoplodon grayi Gray's Beaked Whale, Scamperdown Whale [75]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Mesoplodon hectori Hector's Beaked Whale [76]		Species or species habitat may occur within area
Mesoplodon layardii Strap-toothed Beaked Whale, Strap-toothed Whale, Layard's Beaked Whale [25556]		Species or species habitat may occur within area
Mesoplodon mirus True's Beaked Whale [54]	Species or species habitat may occur within area	
Orcinus orca Killer Whale, Orca [46]	Species or species habitat may occur within area	
Peponocephala electra Melon-headed Whale [47]	Species or species habitat may occur within area	
Physeter macrocephalus Sperm Whale [59]	Foraging, feeding or related behaviour known to occur within area	
Pseudorca crassidens False Killer Whale [48]	Species or species habitat likely to occur within area	
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]	Species or species habitat may occur within area	
Steno bredanensis Rough-toothed Dolphin [30]	Species or species habitat may occur within area	

Current Scientific Name	Status	Type of Presence
Tasmacetus shepherdi Shepherd's Beaked Whale, Tasman Beaked Whale [55]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]	Species or species habitat may occur within area	
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Australian Marine Parks		[Resource Information]
Park Name	Zone & IUCN Categories	
Geographe	Habitat Protection Zone (IUCN IV)	
Perth Canyon	Habitat Protection Zone (IUCN IV)	
Perth Canyon	Habitat Protection Zone (IUCN IV)	
South-west Corner	Habitat Protection Zone (IUCN IV)	
Geographe	Multiple Use Zone (IUCN VI)	
Perth Canyon	Multiple Use Zone (IUCN VI)	
Perth Canyon	Multiple Use Zone (IUCN VI)	
South-west Corner	Multiple Use Zone (IUCN VI)	
South-west Corner	Multiple Use Zone (IUCN VI)	
South-west Corner	Multiple Use Zone (IUCN VI)	
South-west Corner	Multiple Use Zone (IUCN VI)	
Bremer	National Park Zone (IUCN II)	
Geographe	National Park Zone (IUCN II)	

Park Name	Zone & IUCN Categories	
Perth Canyon	National Park Zone (IUCN II)	
Perth Canyon	National Park Zone (IUCN II)	
South-west Corner	National Park Zone (IUCN II)	
South-west Corner	National Park Zone (IUCN II)	
South-west Corner	National Park Zone (IUCN II)	
South-west Corner	National Park Zone (IUCN II)	
South-west Corner	National Park Zone (IUCN II)	
South-west Corner	National Park Zone (IUCN II)	
South-west Corner	Special Purpose Zone (IUCN VI)	
South-west Corner	Special Purpose Zone (IUCN VI)	
Bremer	Special Purpose Zone (Mining Exclusion) (IUCN VI)	
Bremer	Special Purpose Zone (Mining Exclusion) (IUCN VI)	
Geographe	Special Purpose Zone (Mining Exclusion) (IUCN VI)	
South-west Corner	Special Purpose Zone (Mining Exclusion) (IUCN VI)	
South-west Corner	Special Purpose Zone (Mining Exclusion) (IUCN VI)	

Extra Information

State and Territory Reserves		[Resource Information]
Protected Area Name	Reserve Type	State
Arpenteur	Nature Reserve	WA
Bald Island	Nature Reserve	WA
Bold Park	Botanic Gardens	WA
Broadwater	Nature Reserve	WA
Cape Le Grand	National Park	WA

Protected Area Name	Reserve Type	State
Carnac Island	Nature Reserve	WA
Cottesloe Reef	Fish Habitat Protection Area	WA
D'Entrecasteaux	National Park	WA
Doubtful Islands	Nature Reserve	WA
Eclipse Island	Nature Reserve	WA
Fitzgerald River	National Park	WA
Flinders Bay	Nature Reserve	WA
Hamelin Island	Nature Reserve	WA
Investigator Island	Nature Reserve	WA
Jerdacuttup Lakes	Nature Reserve	WA
Leeuwin-Naturaliste	National Park	WA
Locke	Nature Reserve	WA
Marmion	Marine Park	WA
Mount Manypeaks	Nature Reserve	WA
Ngari Capes	Marine Park	WA
NTWA Bushland covenant (0085A)	Conservation Covenant	WA
NTWA Bushland covenant (0085B)	Conservation Covenant	WA
NTWA Bushland covenant (0173)	Conservation Covenant	WA
NTWA Bushland covenant (0178)	Conservation Covenant	WA
Penguin Island	Conservation Park	WA
Port Kennedy Scientific Park	Nature Reserve	WA
Quagering	Nature Reserve	WA
Quarram	Nature Reserve	WA
Recherche Archipelago	Nature Reserve	WA
Rottnest Island	State Reserve	WA
Shoalwater Bay Islands	Nature Reserve	WA

Protected Area Name		Reserve Type	State
Shoalwater Islands		Marine Park	WA
St Alouarn Island	Nature Reserve		WA
Stokes	National Park		WA
Sugar Loaf Rock	Nature Reserve		WA
Swan River	Management Area		WA
Torndirrup	National Park		WA
Two Peoples Bay	Nature Reserve		WA
Unnamed WA25836	Nature Reserve		WA
Unnamed WA26620	Nature Reserve		WA
Unnamed WA26885	Nature Reserve		WA
Unnamed WA27888	Nature Reserve		WA
Unnamed WA32478	5(1)(h) Reserve		WA
Unnamed WA41568	Nature Reserve		WA
Unnamed WA41597	Nature Reserve		WA
Unnamed WA42379	5(1)(h) Reserve		WA
Unnamed WA42469	Nature Reserve		WA
Unnamed WA42879	Nature Reserve		WA
Unnamed WA43903	Nature Reserve		WA
Unnamed WA44004	Nature Reserve		WA
Unnamed WA44676	5(1)(h) Reserve		WA
Unnamed WA44685	5(1)(h) Reserve		WA
Unnamed WA44709	5(1)(h) Reserve		WA
Unnamed WA48837	Nature Reserve		WA
Unnamed WA48955	5(1)(h) Reserve		WA
Unnamed WA48968	5(1)(h) Reserve		WA
Unnamed WA49220	Conservation Park		WA
Unnamed WA49385	Nature Reserve		WA

Protected Area Name	Reserve Type	State
Unnamed WA50017	Nature Reserve	WA
Walpole-Nornalup	National Park	WA
Waychinicup	National Park	WA
West Cape Howe	National Park	WA
Yalgorup	National Park	WA

Regional Forest Agreements
[Resource Information]

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

RFA Name	State
South West WA RFA	Western Australia

Nationally Important Wetlands	[Resource Information]
Wetland Name	State
Becher Point Wetlands	WA
Doggerup Creek System	WA
Rottnest Island Lakes	WA
Swan-Canning Estuary	WA
Vasse-Wonnerup Wetland System	WA

EPBC Act Referrals		[Resource Information]	
Title of referral	Reference	Referral Outcome	Assessment Status
Fremantle District Police Complex Project	2022/09345	Completed	
H2Perth hydrogen and ammonia project	2023/09559	Completed	
Installation of additional potable water tank	2023/09518	Assessment	
Marine Route Survey for Subsea Fibre Optic Data Cable System - Australia West	2024/09826	Referral Decision	
WA Offshore Windfarm	2021/8961	Completed	

Controlled action
Aerial Application of Lavicide to Vasse-Wonnerup Wetlands

2010/5593 Controlled Action Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Airborne sonar trials	2001/540	Controlled Action	Completed
Albany Port Authority dredging project	2006/2540	Controlled Action	Post-Approval
All weather access track road between Windy Harbour and Nelson Location 7965	2011/6121	Controlled Action	Post-Approval
Busselton Foreshore Redevelopment from West Street to Ford Road	2013/6830	Controlled Action	Post-Approval
Cape View Resort at Lot 190 Little Colin Street	2006/3070	Controlled Action	Post-Approval
Construction of a Deepwater, General Container Port	2009/5178	Controlled Action	Proposed Decision
Construction of New Perth Bunbury Highway project	2005/2193	Controlled Action	Post-Approval
Dawson Beach Estate Stage 2	2005/2153	Controlled Action	Post-Approval
Development Guide Plan for 46 ha Residential Subdivision	2008/4102	Controlled Action	Post-Approval
Development of Busselton Health Campus	2011/6011	Controlled Action	Post-Approval
Development of Kwinana Quay port facility	2008/4387	Controlled Action	Completed
Develop Trails and a Wetlands Demonstration Site and Centre	2008/4439	Controlled Action	Post-Approval
Eastern Link Project, Busselton WA	2018/8155	Controlled Action	Post-Approval
Industry Zone	2010/5337	Controlled Action	Post-Approval
Lennox Weir Removal, 12kms west Busselton	2021/8915 Approach	Controlled Action	Assessment
Lower Vasse River Sediment Removal	2021/9051	Controlled Action	Post-Approval
Mangles Bay Marina Based Tourist Precinct	2010/5659	Controlled Action	Post-Approval
Neighbourhood Shopping Centre and Mixed Business Centre, Ocean Road, Dawesville	2006/3155	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Old Broadwater Farm Estate Subdivision - Stage 3	2009/5231	Controlled Action	Post-Approval
Peel's Retreat Estate - Residential development	2006/3063	Controlled Action	Post-Approval
Peppermint Park Residential Subdivision - Stage 5	2008/4028	Controlled Action	Post-Approval
Point Grey Marina Project	2010/5515	Controlled Action	Post-Approval
Point Grey Residential Development - Terrestrial Component	2011/5825	Controlled Action	Post-Approval
Ravensthorpe Nickel Project	2001/172	Controlled Action	Post-Approval
Residential Development, Lot 3 & 4 Dorsett Street	2006/2774	Controlled Action	Completed
Residential development Lot 3, 500 Bussell Highway, WA	2013/7098	Controlled Action	Post-Approval
Residential development Lots 8 & 9 King Street	2006/2787	Controlled Action	Completed
retirement units & aged care facility development	2007/3533	Controlled Action	Post-Approval
Shark Hazard Mitigation Drum Line Program, WA	2014/7174	Controlled Action	Completed
Shenton Park Subdivision	2004/1479	Controlled Action	Completed
Smiths Beach Project, Yallingup - Coastal Tourism Village	2021/9141	Controlled Action	Referral Publication
Southern Bluefin Tuna Farm	2005/2165	Controlled Action	Completed
Subdivision Lot 1 Dawesville Rd	2005/2394	Controlled Action	Post-Approval
Three Turning Pockets West of Busselton Townsite	2002/846	Controlled Action	Post-Approval
Tourism Villa Facility Development	2008/4025	Controlled Action	Post-Approval
tourist and residential development	2007/3483	Controlled Action	Post-Approval
Upgrade of Ford Road	2005/2113	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Urban development, multiple lots Northerly Street, Vasse, WA	2019/8494	Controlled Action	Assessment Approach
Vasse Diversion Drain Upgrade	2017/7932	Controlled Action	Post-Approval
Warders Hotel, Block 1 Warders Cottages, Fremantle, WA	2018/8144	Controlled Action	Post-Approval
Not controlled action			
'Looping 10' gas transmission pipeline from Kwinana to Hopelands	2005/2212 Action	Not Controlled	Completed
25 Lot Residential Subdivision Action	2009/4830	Not Controlled	Completed
Aerial application of mosquito larvicides to Vasse Wonnerup Wetlands, WA	2016/7780 Action	Not Controlled	Completed
APX-West Fibre-optic telecommunications cable system, WA to Singapore	2013/7102 Action	Not Controlled	Completed
Bushfire Mitigation Works - City of Mandurah	2020/8674 Action	Not Controlled	Completed
Busselton to Flinders Bay Rails to Trails Project, WA	2013/6835 Action	Not Controlled	Completed
Cape Naturaliste Road Shared Pathway, Dunsborough, WA	2018/8282 Action	Not Controlled	Completed
Causeway Bridge Duplication, Busselton, WA	2018/8309 Action	Not Controlled	Completed
Caves Road widening project between Dunsborough and Yallingup(20.3 -24.6 SLK), WA	2015/7475 Action	Not Controlled	Completed
Clear Lot 503, 54 Ocean Road Dawesville, WA	2014/7375 Action	Not Controlled	Completed
Construction and operation of an 8 turbine wind farm at Rous Head Harbour, Frema	2003/933 Action	Not Controlled	Completed
Construction of Secret Harbour High School	2004/1489 Action	Not Controlled	Completed
CTBT - Cape Leeuwin Hydroacoustic Station Proposal	2000/27 Action	Not Controlled	Completed
Disposal of residential properties, Fremantle, WA	2019/8593 Action	Not Controlled	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Eastport canal estate development stage 5	2007/3737 Action	Not Controlled	Completed
Establishment of a National Lifestyle Village	2011/6081 Action	Not Controlled	Completed
Expansion of berthing facilities at Kwinana Bulk Terminal	2006/2509 Action	Not Controlled	Completed
Expansion of existing Ammonium Nitrate Production Facility	2005/1941 Action	Not Controlled	Completed
Expedition 369-Australian Cretaceous Climate and Tectonics, Australian EEZ waters	2017/7891 Action	Not Controlled	Completed
Florida Estate Residential Subdivision Development Stage 13	2011/6045 Action	Not Controlled	Completed
Florida North residential development, Lot 9008, Ocean Road, Dawesville, WA	2015/7462 Action	Not Controlled	Completed
Fremantle Ports Inner Harbour Capital Dredging Proposal	2005/2477 Action	Not Controlled	Completed
Gas-fired Power Station	2005/2213	Not Controlled Action	Completed
Geo-science Investigations	2005/2069	Not Controlled	Completed
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522 Action	Not Controlled	Completed
INDIGO Central Submarine Telecommunications Cable	2017/8127 Action	Not Controlled	Completed
Kennedy Bay urban development, Port Kennedy, WA	2014/7122 Action	Not Controlled	Completed
Kennedy Park Estate Residential Development	2003/1044 Action	Not Controlled	Completed
Kwinana Gas-Fired Power Station	2005/2101	Not Controlled	Completed
Limestone quarry expansion	2005/2268	Not Controlled	Completed
Limestone Quarry Expansion, Lots 3618 and 1794, Finn Road	2005/2332 Action	Not Controlled	Completed
Lot 101 Mandurah Road, Madora Bay, WA	2012/6466 Action	Not Controlled	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Oman Australia Cable Installation, WA	2021/8922 Action	Not Controlled	Completed
Oman Australia Cable - Marine Route Survey	2020/8731 Action	Not Controlled	Completed
Palm Beach Caravan Park Redevelopment, Rockingham, WA	2013/6853 Action	Not Controlled	Completed
Redevelopment of Lots 3 & 4, Kent Street	2007/3243 Action	Not Controlled	Completed
Residential & Light Industrial Development, Vasse WA	2013/6932 Action	Not Controlled	Completed
Residential development, Lot 42, Farmhouse Court, Bovell, WA	2014/7195 Action	Not Controlled	Completed
Re-zoning of Land for Future Residential Development Purposes	2009/4908 Action	Not Controlled	Completed
Rottnest Lodge Redevelopment Action	2019/8565	Not Controlled	Completed
Seismic Survey, Bremer Basin, Mentelle Basin and Zeewyck Sub-basin	2004/1700 Action	Not Controlled	Completed
Sepia Depression Ocean Outlet Landline Duplication	2012/6248 Action	Not Controlled	Completed
Vasse Hotel and Supermarket Redevelopment	2001/288 Action	Not Controlled	Completed
Warders' Cottages Block 2 'W2' Action	2022/9148	Not Controlled	Completed
Warders' Cottages W2 minor works, Fremantle, WA	2018/8185 Action	Not Controlled	Completed
Wind Farm development	2005/2105	Not Controlled Action	Completed
Not controlled action (particular manner)			
2D seismic survey	2007/3273	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey	2008/4493	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey Within WA-382-P	2007/3799	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Aerial Mosquito Spraying Vasse-Wonnerup System	2005/1952	Not Controlled Action (Particular Manner)	Post-Approval
Ambergate North Residential Development	2009/4802	Not Controlled Action (Particular Manner)	Post-Approval
Arcadia Petroleum - BR12 3D Marine Seismic Survey	2012/6476	Not Controlled Action (Particular Manner)	Post-Approval
Australian Underwater Discovery Centre	2021/9019	Not Controlled Action (Particular Manner)	Post-Approval
Australia to Singapore Fibre Optic Submarine Cable System	2011/6127	Not Controlled Action (Particular Manner)	Post-Approval
Bremer Basin 2D Marine Seismic Survey, WA	2009/5013	Not Controlled Action (Particular Manner)	Post-Approval
CETO 6 Garden Island Project, offshore WA	2016/7635	Not Controlled Action (Particular Manner)	Post-Approval
CETO 6 Geophysical and Geotechnical Surveys	2014/7408	Not Controlled Action (Particular Manner)	Post-Approval
City of Cockburn Sporting Facilities	2005/2139	Not Controlled Action (Particular Manner)	Post-Approval
Construction of urea production plant and supporting infrastructure	2009/5067	Not Controlled Action (Particular Manner)	Post-Approval
Coodanup residential development	2006/3073	Not Controlled Action (Particular Manner)	Post-Approval
Extension of existing mains water supply pipeline	2009/4686	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Grand Southern Margin 2D Marine Seismic Survey	2008/4599	Not Controlled Action (Particular Manner)	Post-Approval
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval
Lake Richmond Boardwalk installation, Rockingham, WA	2013/6977	Not Controlled Action (Particular Manner)	Post-Approval
Laying a submarine optical fibre telecommunications cable, Perth to Singapore and Jakarta	2014/7332	Not Controlled Action (Particular Manner)	Post-Approval
Marine Environmental Survey 2012/6275	2012/6275	Not Controlled Action (Particular Manner)	Post-Approval
Monaghan's Roundabout Project - Intersection of Bussell Highway and Caves Road, Shire of Busselton	2007/3515	Not Controlled Action (Particular Manner)	Post-Approval
Multipurpose development stage 1 within 340ha	2004/1913	Not Controlled Action (Particular Manner)	Post-Approval
Novacare Lifestyle Village 2001/311	2001/311	Not Controlled Action (Particular Manner)	Post-Approval
Road upgrades and walk trail development	2009/4958	Not Controlled Action (Particular Manner)	Post-Approval
South Busselton Primary School 2001/290	2001/290	Not Controlled Action (Particular Manner)	Post-Approval
South West Metropolitan Railway Project	2003/1175	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Subdivision and development of residential dwelling on part Lot 1, Bussell Highw	2006/3023	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
3D Marine Seismic survey	2007/3725	Referral Decision	Completed
3D Seismic Survey	2012/6245	Referral Decision	Completed
Ambergate North Residential Community (4896 lots)	2008/4617	Referral Decision	Completed
CO2 3D Seismic Survey Vlaming Sub-Basin	2012/6343	Referral Decision	Completed
Grand Southern Margin 2D Marine Seismic Survey	2008/4573	Referral Decision	Completed
Kennedy Bay Urban Development,PortKennedy,Rockingh	2013/7022	Referral Decision	Completed
Lots 1-5 Bluerise Cove & Lots 801 & 124 Pleasant Grove Rezoning and Subdivision	2008/4295	Referral Decision	Completed
Narelle 3D Marine Seismic Survey	2008/4575	Referral Decision	Completed
Residential Subdivision Lot 801 Pleasant Grove Circle, Falcon, WA	2012/6507	Referral Decision	Referral Publication
Riverbank and Country Road Estates Lot 43 Bussell Highway	2005/2367	Referral Decision	Completed
Sonar Trials and Acoustic Trials	2001/538	Referral Decision	Completed
Water quality improvement trial, Lower Vasse River, Busselton, WA	2013/6975	Referral Decision	Completed

Key Ecological Features

[[Resource Information](#)]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Albany Canyons group and adjacent shelf break	South-west
Ancient coastline at 90-120m depth	South-west
Cape Mentelle upwelling	South-west

Name	Region
Commonwealth marine environment surrounding the Recherche Archipelago	South-west
Commonwealth marine environment within and adjacent	South-west to Geographe Bay
Commonwealth marine environment within and adjacent	South-west to the west coast inshore lagoons
Diamantina Fracture Zone	South-west
Naturaliste Plateau	South-west
Perth Canyon and adjacent shelf break, and other west coast canyons	South-west
Western demersal slope and associated fish communities	South-west
Western rock lobster	South-west

Biologically Important Areas			[Resource Information]
Scientific Name	Behaviour		Presence
Seabirds			
Ardenna carneipes			
Flesh-footed Shearwater [82404]	Aggregation	Known to occur	
Ardenna carneipes			
Flesh-footed Shearwater [82404]	Foraging (in high numbers)	Known to occur	
Ardenna pacifica			
Wedge-tailed Shearwater [84292]	Foraging (in high numbers)	Known to occur	
Ardenna tenuirostris			
Short-tailed Shearwater [82652]	Foraging (in high numbers)	Known to occur	
Eudyptula minor			
Little Penguin [1085]	Foraging (provisioning young)	Known to occur	
Hydroprogne caspia			
Caspian Tern [808]	Foraging (provisioning young)	Known to occur	
Larus pacificus			
Pacific Gull [811]	Foraging (in high numbers)	Former Range	

Scientific Name	Behaviour	Presence
-----------------	-----------	----------

[Larus pacificus](#)

Pacific Gull [811] Foraging (in high numbers) Known to occur

[Onychoprion anaethetus](#)

Bridled Tern [82845] Foraging (in high numbers) Known to occur

[Onychoprion fuscata](#)

Sooty Tern [82847] Foraging Known to occur

[Pelagodroma marina](#)

White-faced Storm petrel [1016] Foraging (in high numbers) Known to occur

[Phalacrocorax fuscescens](#)

Black-faced Cormorant [59660] Foraging Known to occur

[Pterodroma macroptera macroptera](#)

Great-winged Petrel (macroptera race) [1035] Foraging (provisioning young) Known to occur

[Pterodroma mollis](#)

Soft-plumaged Petrel [1036] Foraging (in high numbers) Known to occur

[Puffinus assimilis tunneyi](#)

Little Shearwater [59363] Foraging (in high numbers) Known to occur

[Sterna dougallii](#)

Roseate Tern [817] Foraging Known to occur

[Sternula nereis](#)

Fairy Tern [82949] Foraging (in high numbers) Known to occur

[Thalassarche chlororhynchos bassi](#)

Indian Yellow-nosed Albatross [85249] Foraging (in high numbers) Known to occur

Seals [Neophoca cinerea](#)

Australian Sea Lion [22] Foraging (male) Likely to occur

Scientific Name	Behaviour	Presence
Neophoca cinerea Australian Sea Lion [22]	Foraging (male and female)	Known to occur
Neophoca cinerea Australian Sea Lion [22]	Foraging (male and female)	Likely to occur
Sharks Carcharodon carcharias White Shark [64470]	Foraging	Known to occur
Whales Balaenoptera musculus Blue and Pygmy Blue Whale [36]	Foraging (abundant food source)	Known to occur
Balaenoptera musculus Blue and Pygmy Blue Whale [36]	Foraging (high density)	Known to occur
Balaenoptera musculus Blue and Pygmy Blue Whale [36]	Foraging (on migration)	Known to occur
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Distribution	Known to occur
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Foraging Area (annual high use area)	Known to occur
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Known Foraging Area	Known to occur
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration (north)	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration (north and south)	Known to occur

Scientific Name		Behaviour	Presence
Megaptera novaeangliae			
Humpback Whale [38]	Migration (south)		Known to occur
Physeter macrocephalus			
Sperm Whale [59]	Foraging (abundant food source)		Known to occur

Caveat

PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

World and National Heritage properties;

Wetlands of International and National Importance;

Commonwealth and State/Territory reserves;

distribution of listed threatened, migratory and marine species;

listed threatened ecological communities; and

other information that may be useful as an indicator of potential habitat value.

DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

threatened species listed as extinct or considered vagrants;

some recently listed species and ecological communities;

some listed migratory and listed marine species, which are not listed as threatened species; and

migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

[© Commonwealth of Australia](#)
[Department of Climate Change, Energy, the Environment and Water](#) GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

APPENDIX B. SUPPORTING FIGURES FOR SECTION 2.3 METEOROLOGY AND OCEANOGRAPHY

Browse

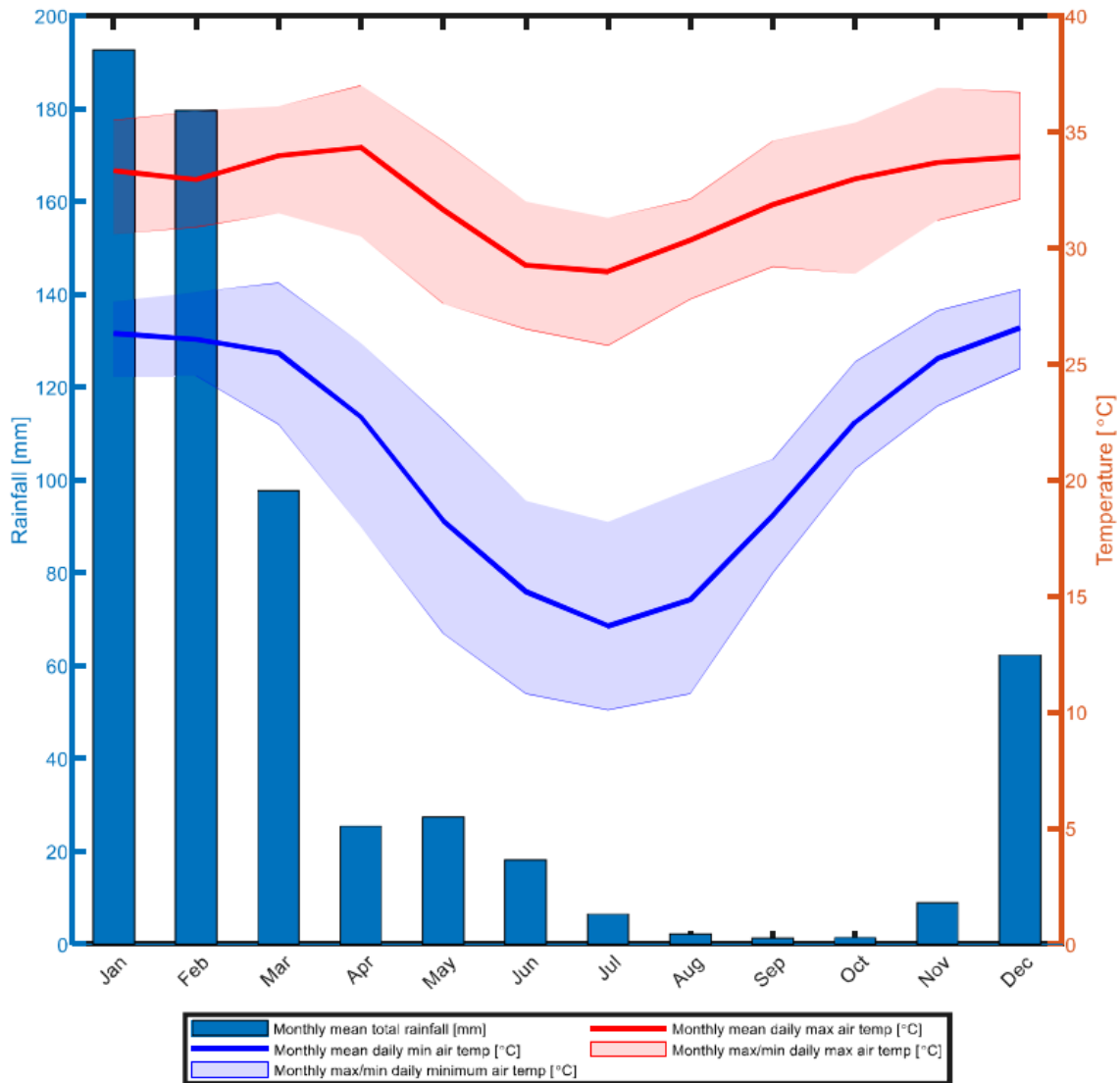


Figure 1. Monthly average total rainfall [mm] and air temperature [°C], calculated based on observations at the Broome Airport weather station from 1939-2020 (Bureau of Meteorology 2020). Bars show the monthly average total rainfall values, and thick blue and red lines denote monthly average daily minimum and maximum air temperatures, respectively. Shaded blue and red areas denote monthly recorded extremes of daily minimum and maximum air temperature, respectively.

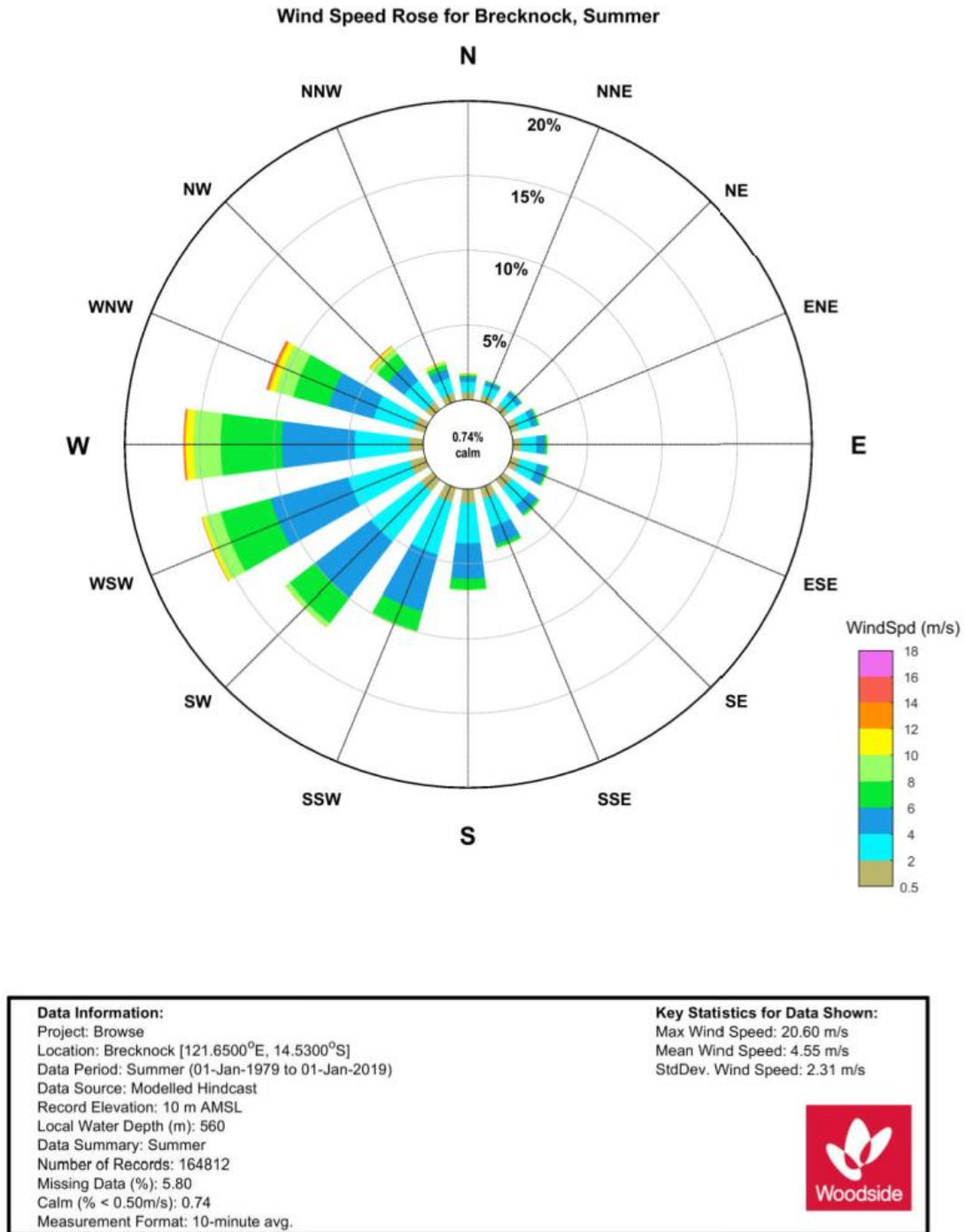


Figure 2. Summer distributions of 10-minute average wind speeds by 22.5° directional sectors at the Brecknock site (Metocean Solutions Ltd, 2019). Note tropical cyclone events were not included in this distribution. Winds at Brecknock in summer are predominantly from the WNW to SW due to the North West Monsoon (WEL, 2019).

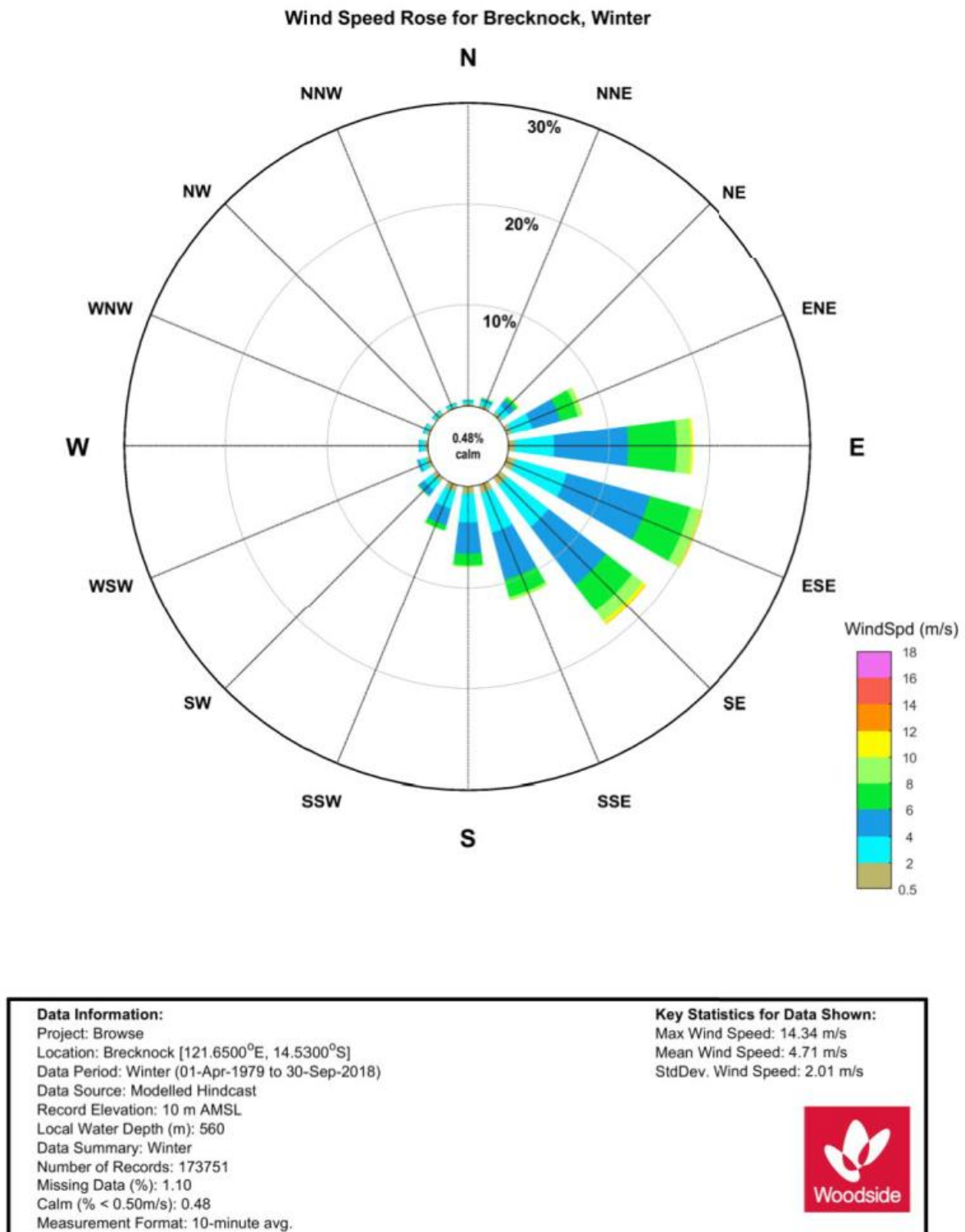


Figure 3. Winter distributions of 10-minute average wind speeds by 22.5° directional sectors at the Brecknock site (Metocean Solutions Ltd, 2019). Note tropical cyclone events were not included in this distribution. Winds at Brecknock in winter are predominantly from the E to SE due to the South East Trade Winds coming from the Australian mainland (WEL, 2019).

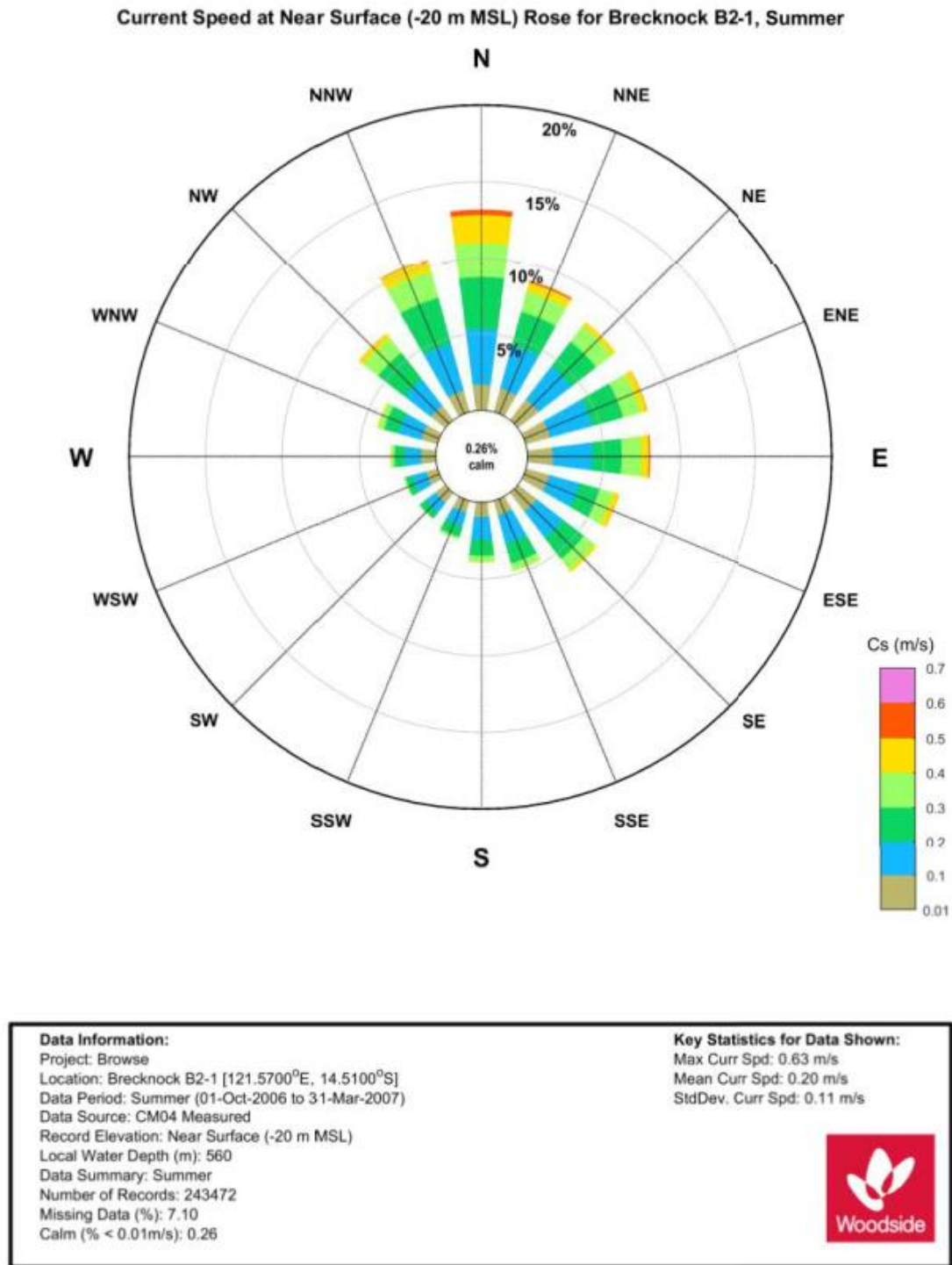


Figure 4. Summer (Nov-Apr) near surface combined frequency of 1-minute mean current speed and direction (towards) measured at Brecknock B2-1 location (cyclones removed) (RPS Metocean Ltd. 2008).

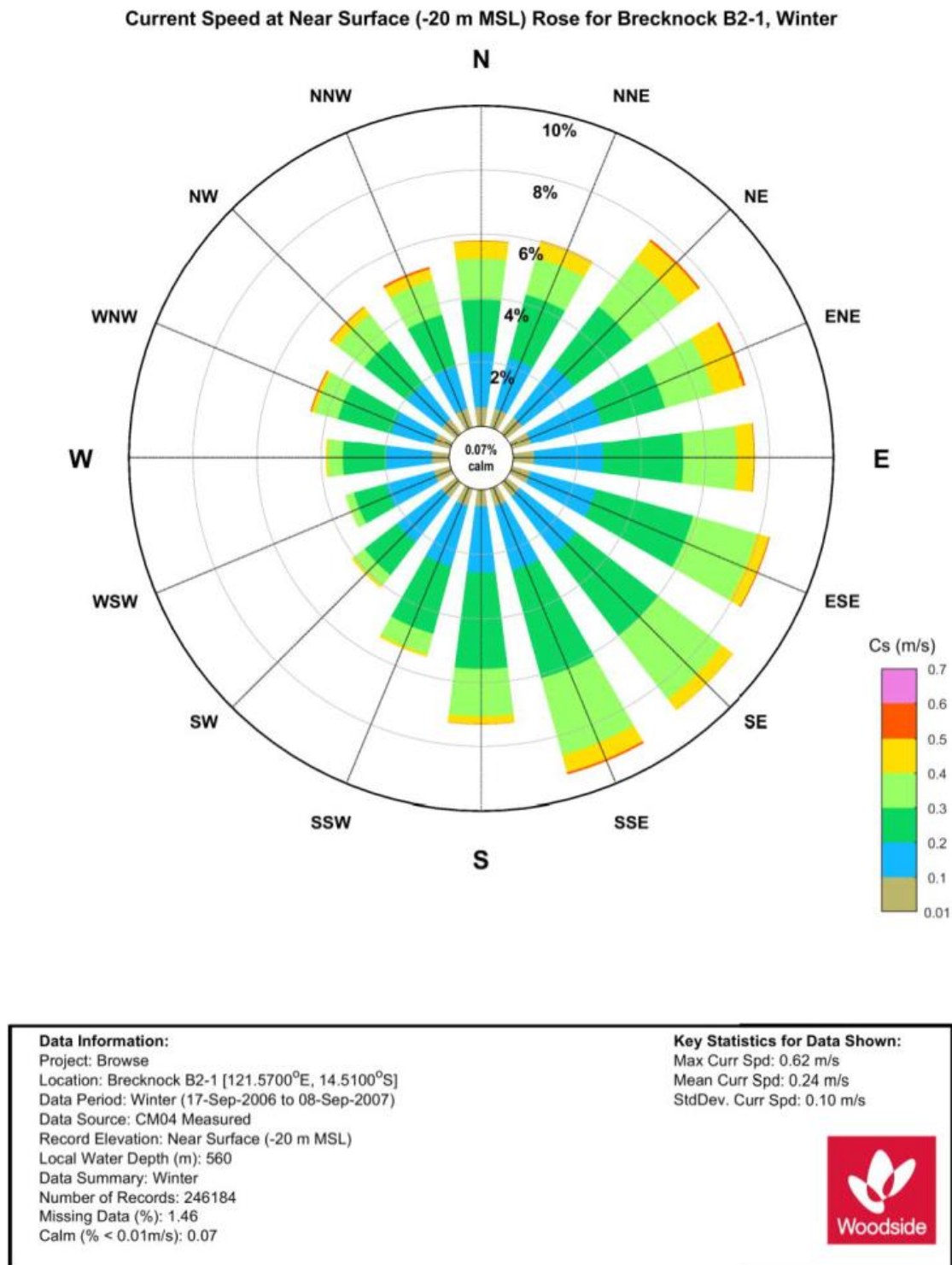


Figure 5. Winter (May-Sep) near surface combined frequency of 1-minute mean current speed and direction (towards) measured at Brecknock B2-1 location (cyclones removed) (RPS Metocean Ltd. 2008).

North west Shelf/Scarborough

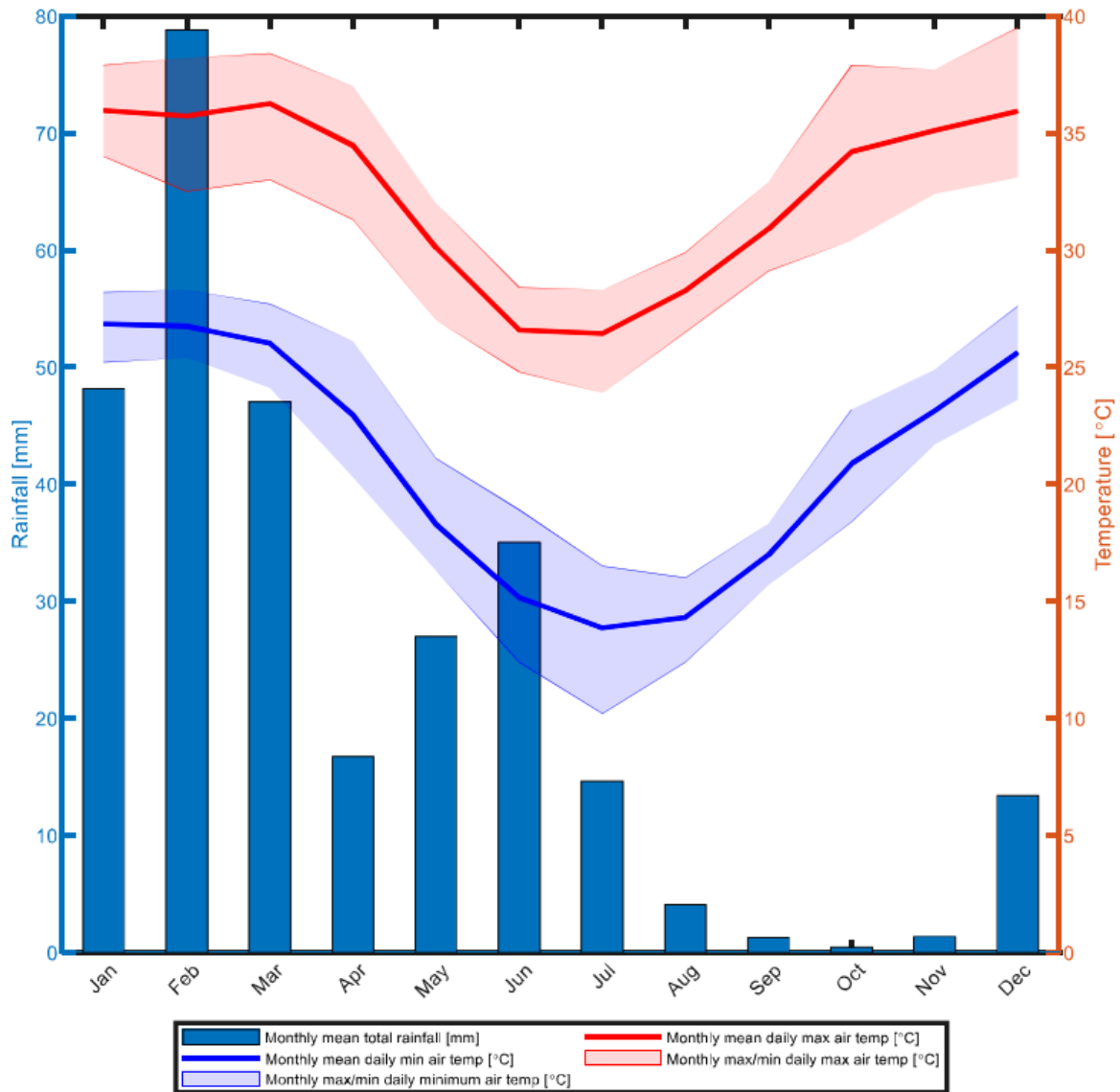
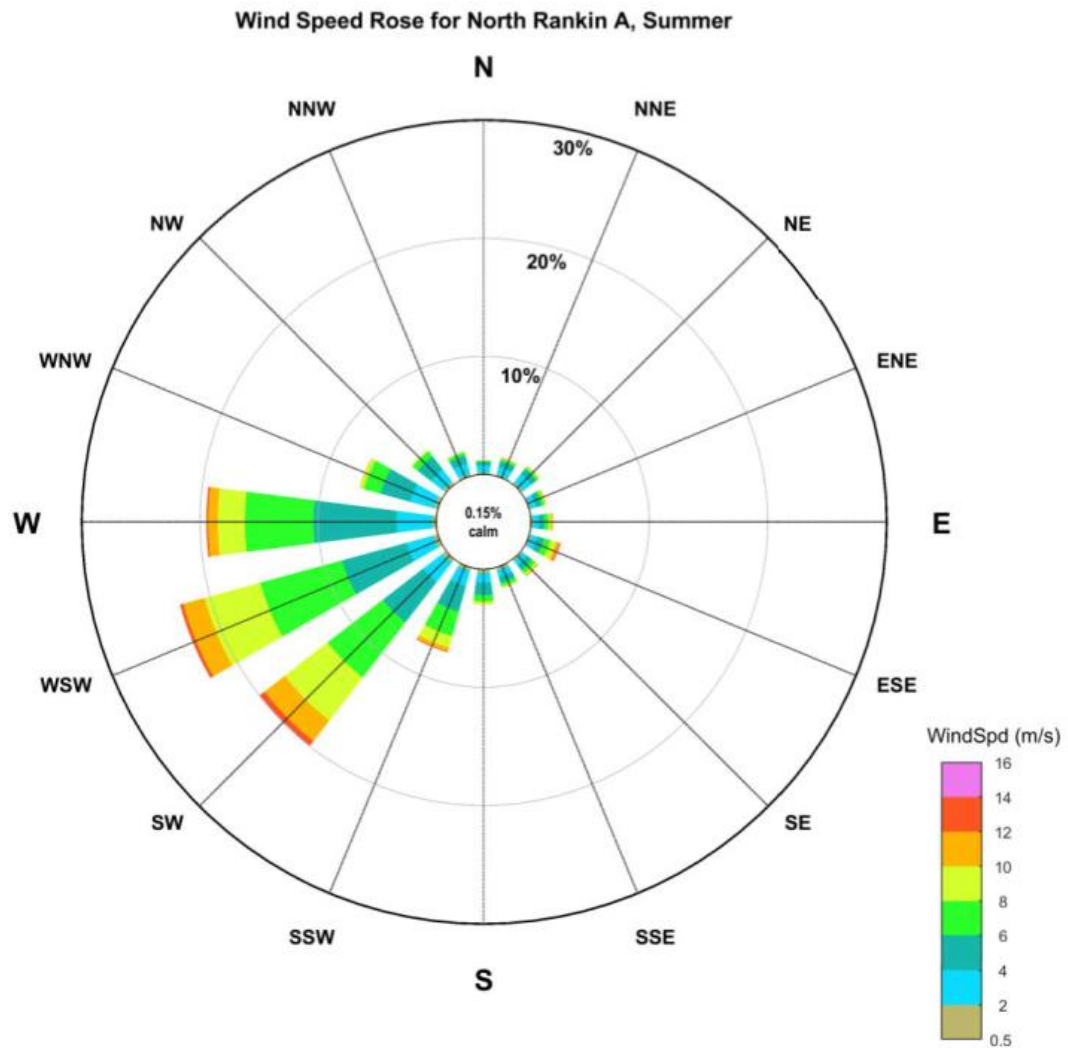


Figure 1. Monthly average total rainfall [mm] and air temperature [°C], calculated based on observations at the Karratha Aero weather station from 1972-2020 and 1993-2020 respectively (Bureau of Meteorology 2020). Bars show the monthly average total rainfall values, and thick blue and red lines denote monthly average daily minimum and maximum air temperatures, respectively. Shaded blue and red areas denote monthly recorded extremes of daily minimum and maximum air temperature, respectively.



Data Information:

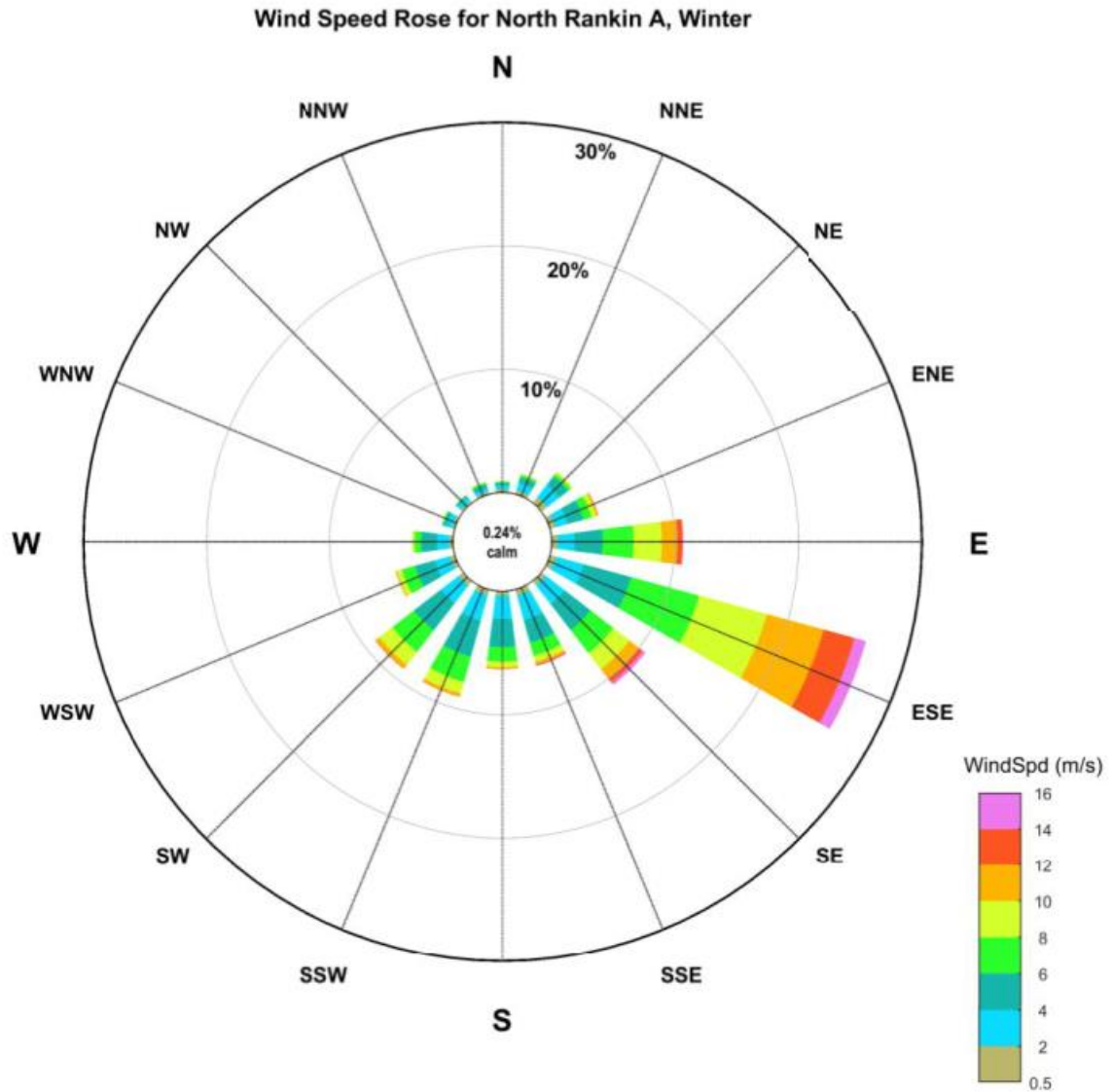
Project: North West Shelf
 Location: North Rankin A [116.1200°E, 19.6100°S]
 Data Period: Summer (01-Oct-1995 to 30-Nov-2015)
 Data Source: Measured Winds
 Record Elevation: 10 m AMSL
 Local Water Depth (m): 125
 Data Summary: Summer
 Number of Records: 674659
 Missing Data (%): 7.24
 Calm (% < 0.50m/s): 0.15
 Measurement Format: 10-minute avg.

Key Statistics for Data Shown:

Max Wind Speed: 18.50 m/s
 Mean Wind Speed: 6.04 m/s
 StdDev. Wind Speed: 2.55 m/s



Figure 2. Summer distributions of 10-minute average wind speeds by 22.5° directional sectors at the North Rankin A site (WEL, 2015). Note tropical cyclone events were not included in this distribution. Winds at North Rankin A in summer are characterised by W to SW driven by the North West Monsoon (RPS, 2016).



Data Information:

Project: North West Shelf
 Location: North Rankin A [116.1200°E, 19.6100°S]
 Data Period: Winter (22-Jun-1995 to 30-Sep-2015)
 Data Source: Measured Winds
 Record Elevation: 10 m AMSL
 Local Water Depth (m): 125
 Data Summary: Winter
 Number of Records: 673213
 Missing Data (%): 4.43
 Calm (% < 0.50m/s): 0.24
 Measurement Format: 10-minute avg.

Key Statistics for Data Shown:

Max Wind Speed: 24.23 m/s
 Mean Wind Speed: 6.25 m/s
 StdDev. Wind Speed: 3.16 m/s



Figure 3. Winter distributions of 10-minute average wind speeds by 22.5° directional sectors at the North Rankin A site (WEL, 2015). Note tropical cyclone events were not included in this distribution. Winds at North Rankin in winter are predominantly influenced by the South East Trade Winds over Australia (RPS, 2016).

Scarborough

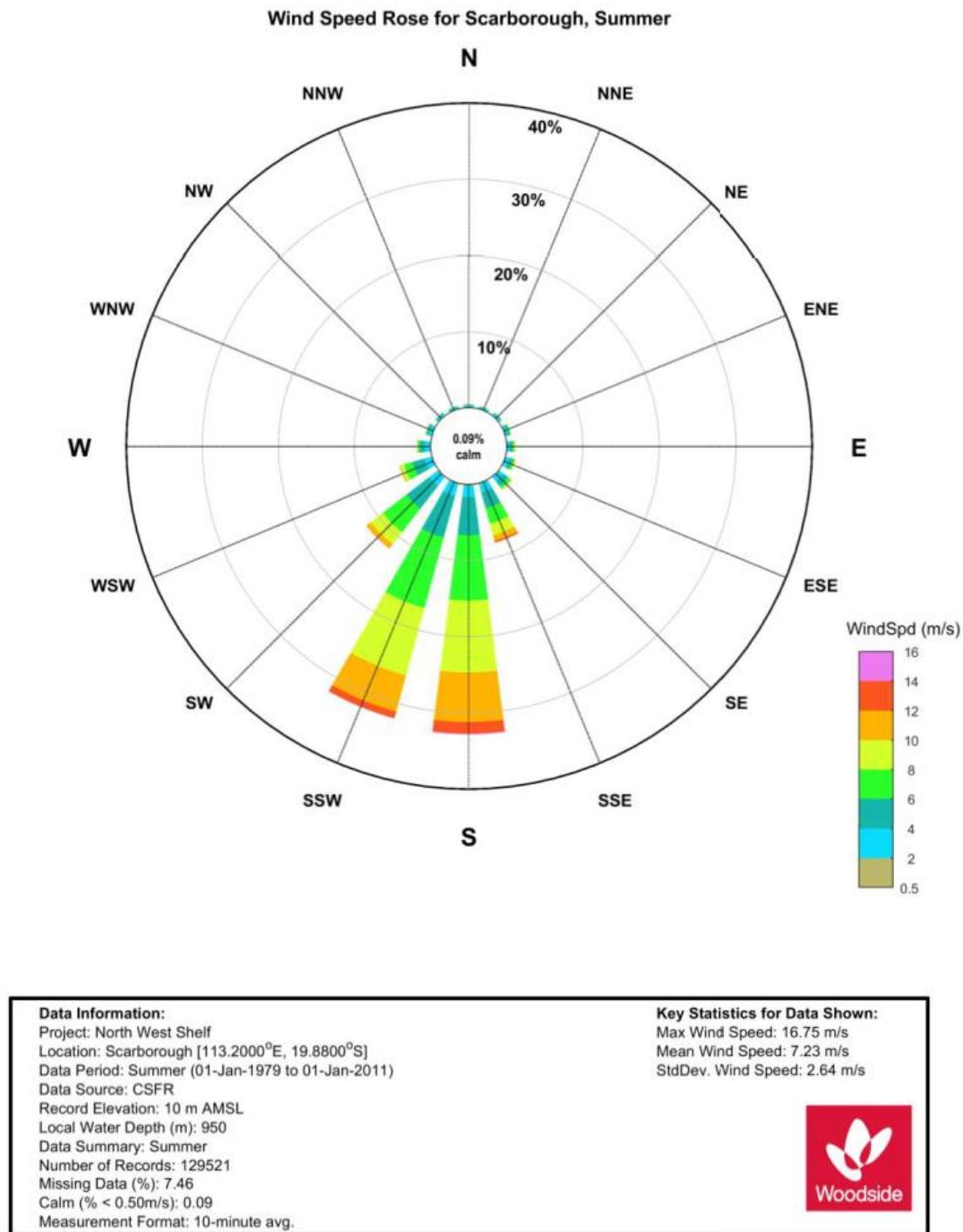


Figure 1. Summer distributions of wind speeds (10-minute at 10m ASL) by 22.5° directional sectors at the Scarborough site (WEL, 2018). Note tropical cyclone events were not included in this distribution. Winds at Scarborough in summer are predominantly from the S to SSW due to a Pilbara Heat Low forming over the northwest coast of Western Australia [R8] SW winds are also experienced at this site due to the monsoon trough.

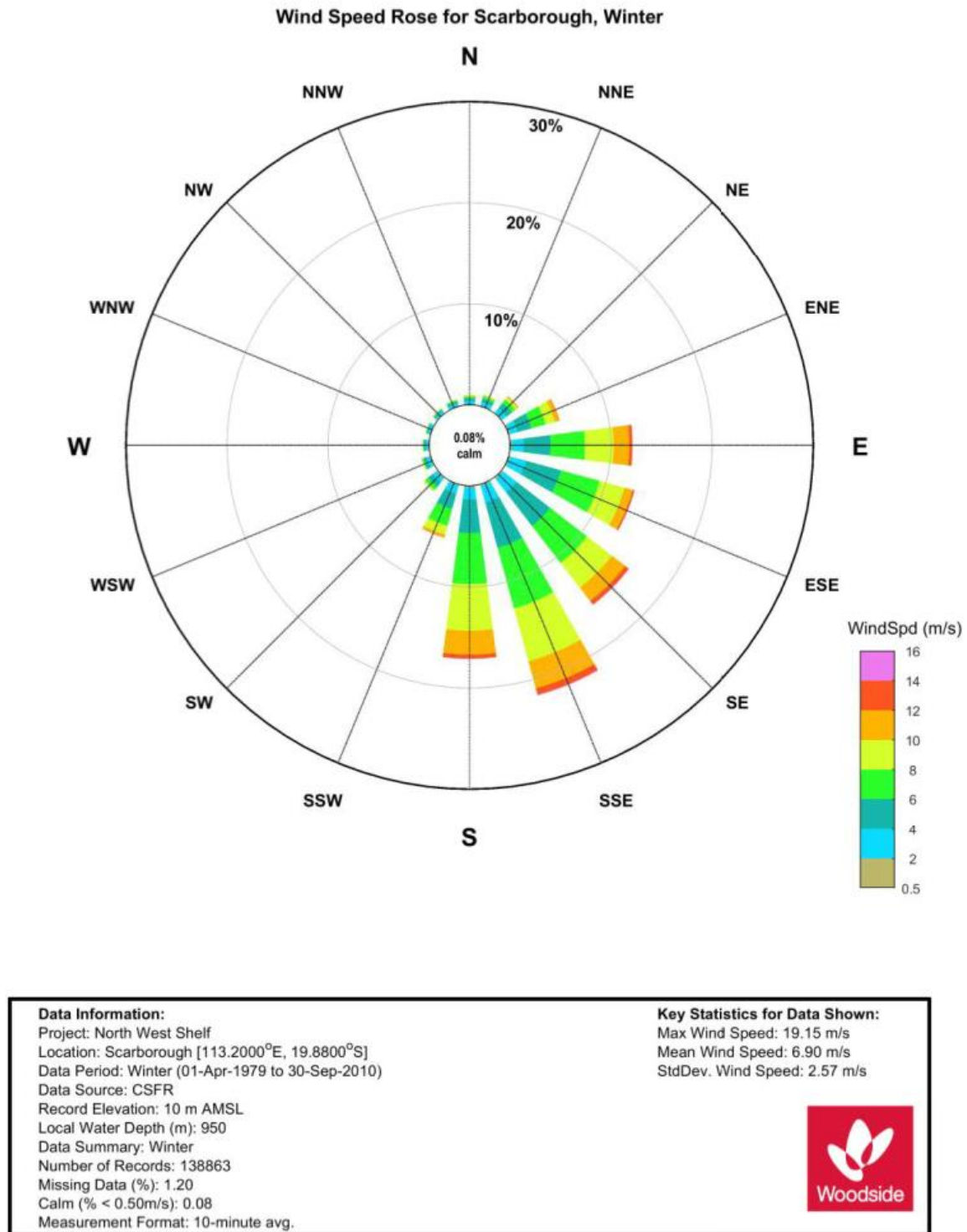


Figure 2. Winter distributions of wind speeds (10-minute at 10 m ASL) by 22.5° directional sectors at the Scarborough site (WEL, 2018). Note tropical cyclone events were not included in this distribution. Winds at Scarborough in winter are predominantly from the S to E driven by the South East Trade Winds over Australia (RPS, 2016)

North-west Shelf

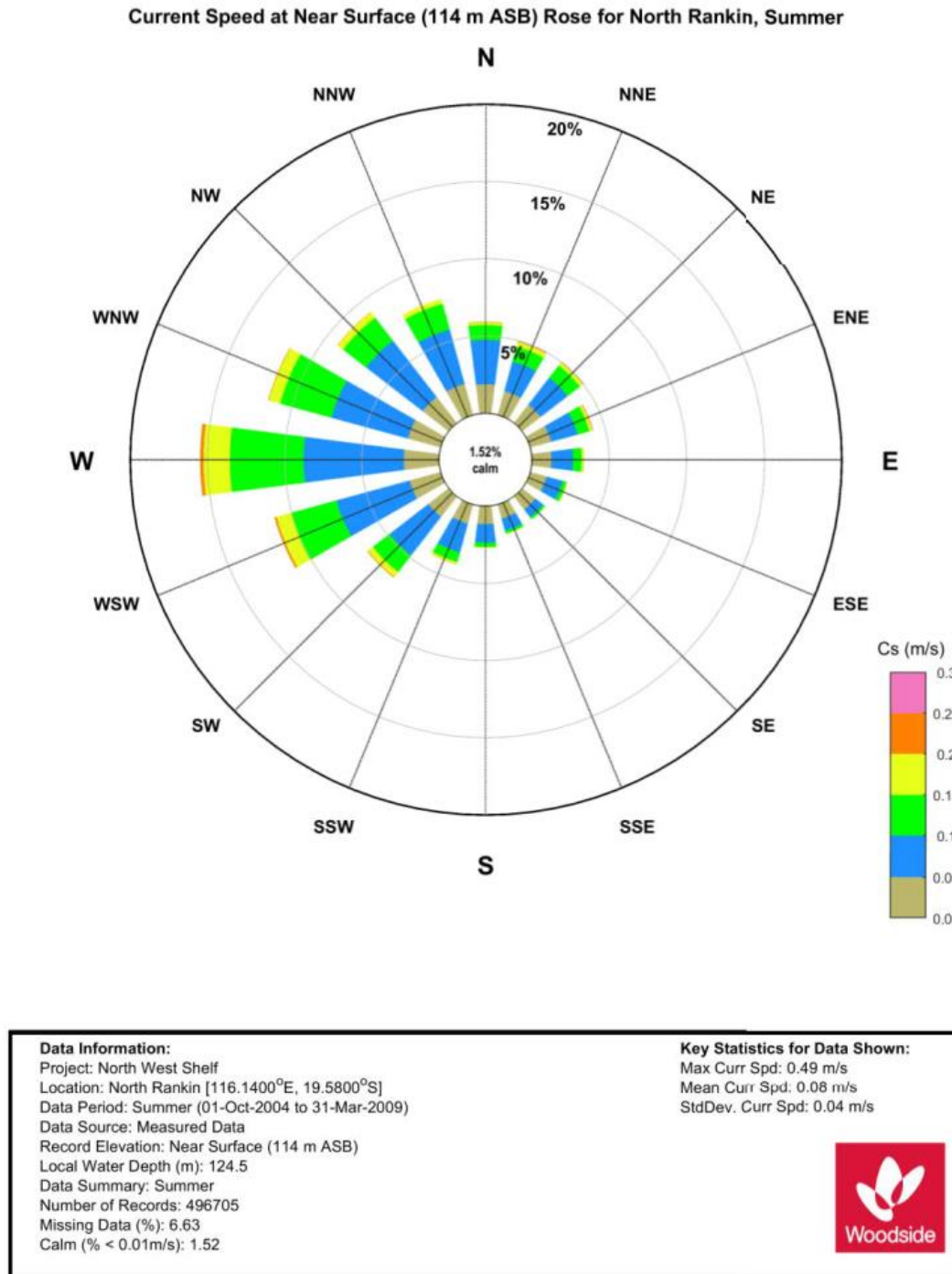


Figure 1. Summer (Nov-Apr) near surface combined frequency of 1-minute mean current speed and direction (towards) measured at the North Rankin location (cyclones removed) (WEL, 2011).

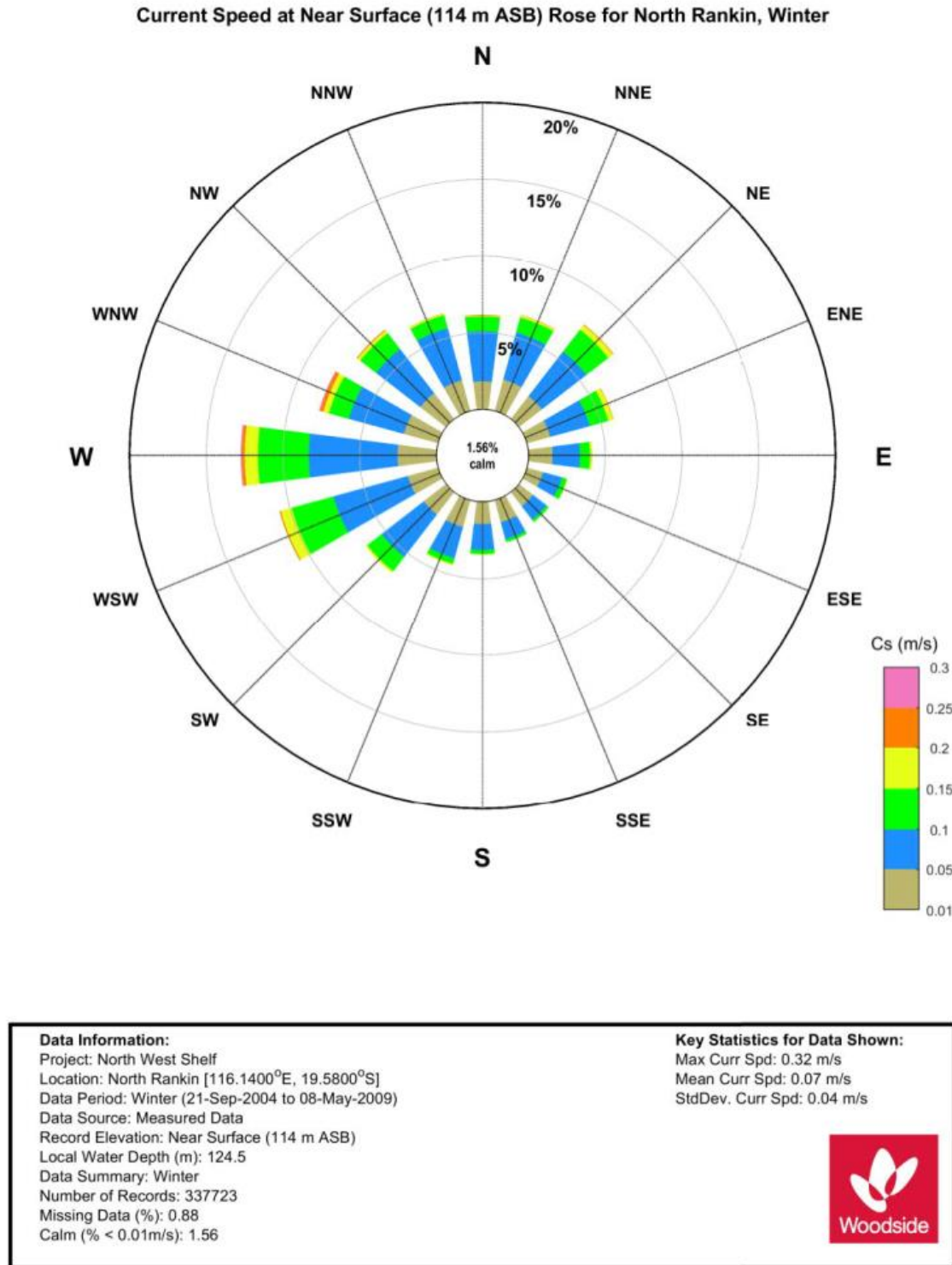
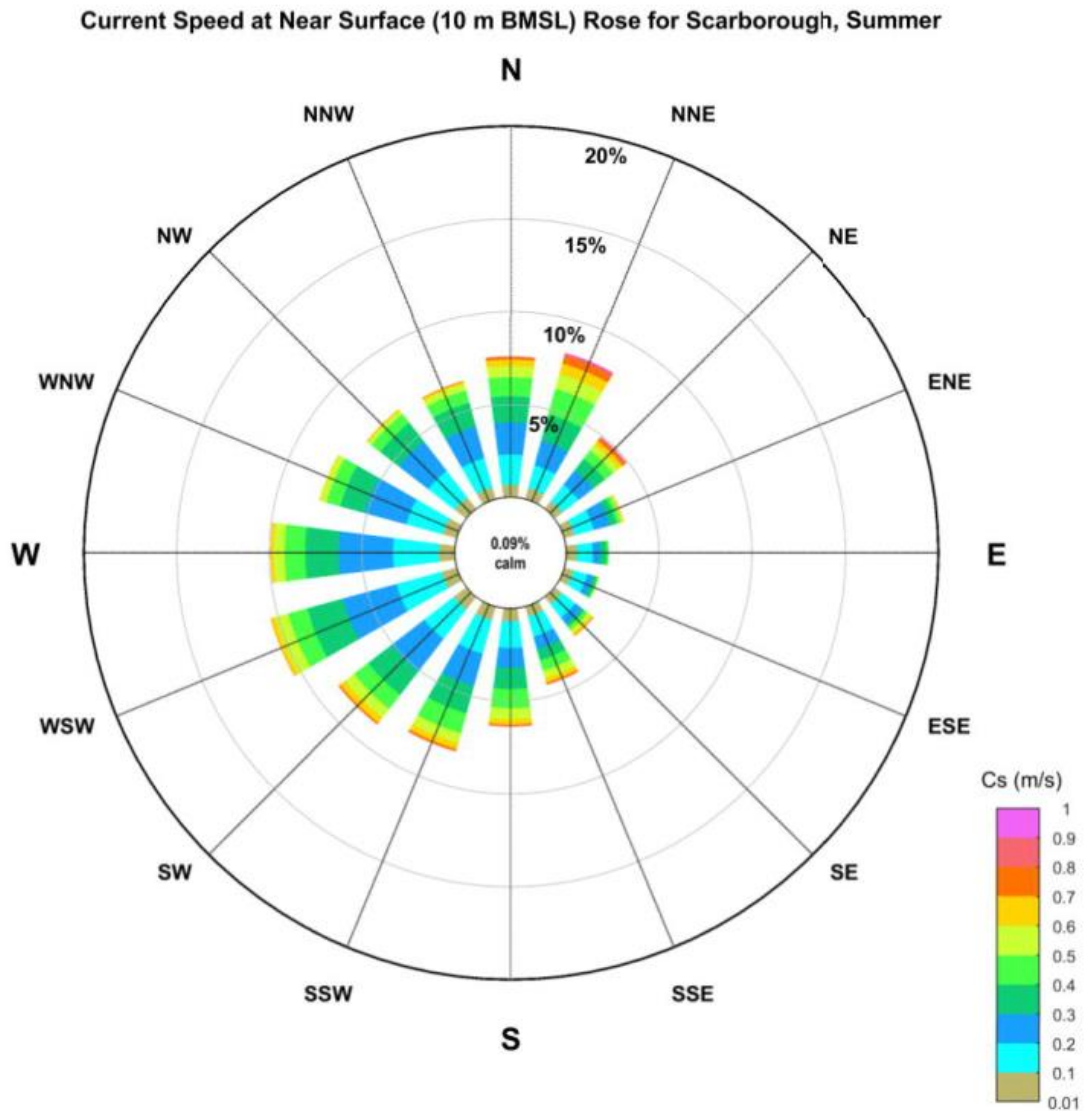


Figure 2. Winter (May-Sep) near surface combined frequency of 1-minute mean current speed and direction (towards) measured at the North Rankin location (cyclones removed) (WEL, 2011).

Scarborough



Data Information:

Project: North West Shelf
 Location: Scarborough [113.2000°E, 19.8800°S]
 Data Period: Summer (15-Jan-2010 to 29-Feb-2012)
 Data Source: Measured Data
 Record Elevation: Near Surface (10 m BMSL)
 Local Water Depth (m): 950
 Data Summary: Summer
 Number of Records: 43600
 Missing Data (%): 7.11
 Calm (% < 0.01m/s): 0.09

Key Statistics for Data Shown:

Max Curr Spd: 1.03 m/s
 Mean Curr Spd: 0.29 m/s
 StdDev. Curr Spd: 0.17 m/s



Figure 1. Summer (Nov - April) near surface combined frequency of 1-minute mean current speed and direction (towards) measured at the Scarborough location (cyclones removed) (WEL, 2018).

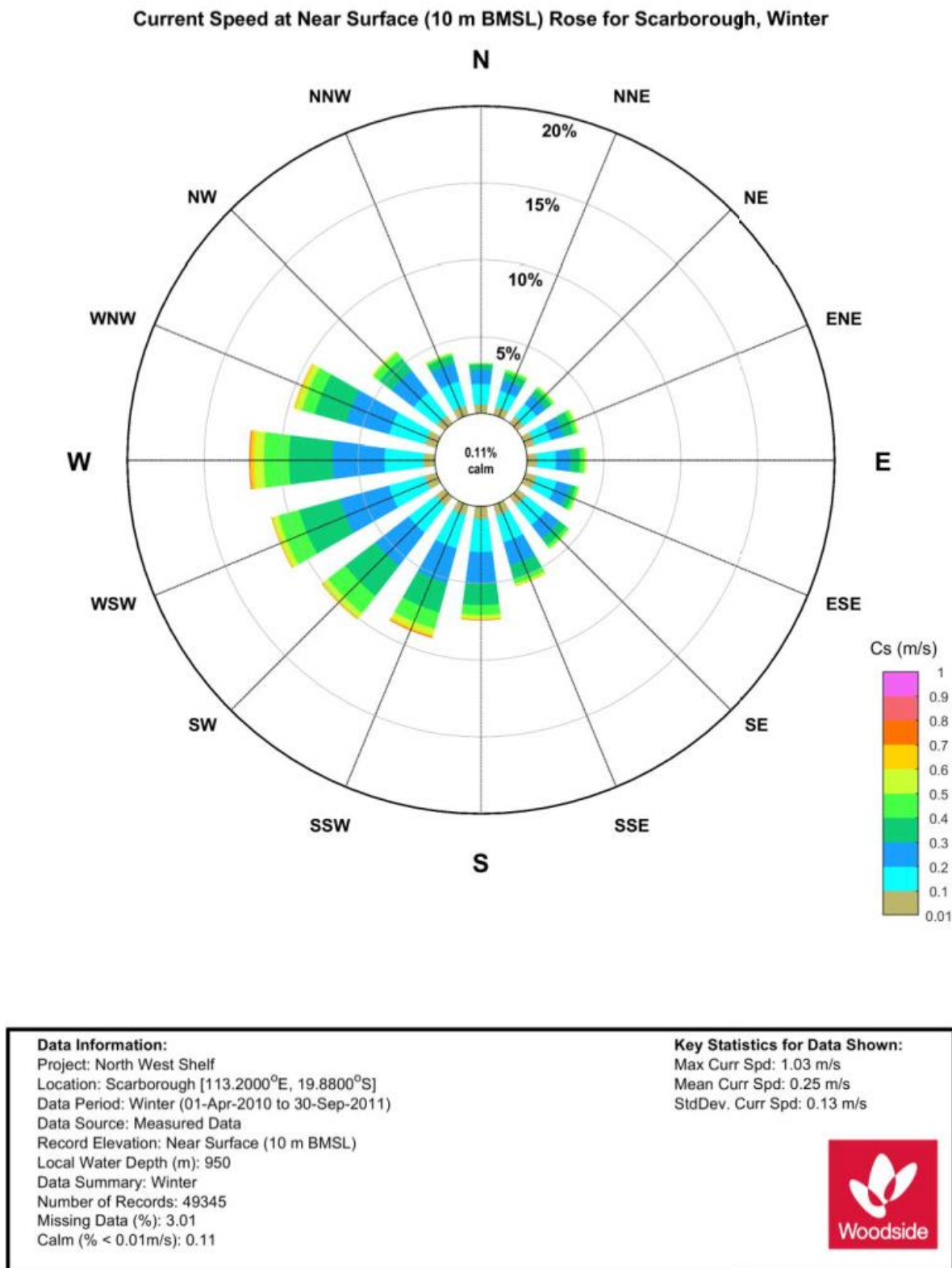


Figure 2. Winter (May-Sep) near surface combined frequency of 1-min mean current speed and direction (towards) measured at the Scarborough location (cyclones removed) (WEL, 2018).

North-west Cape

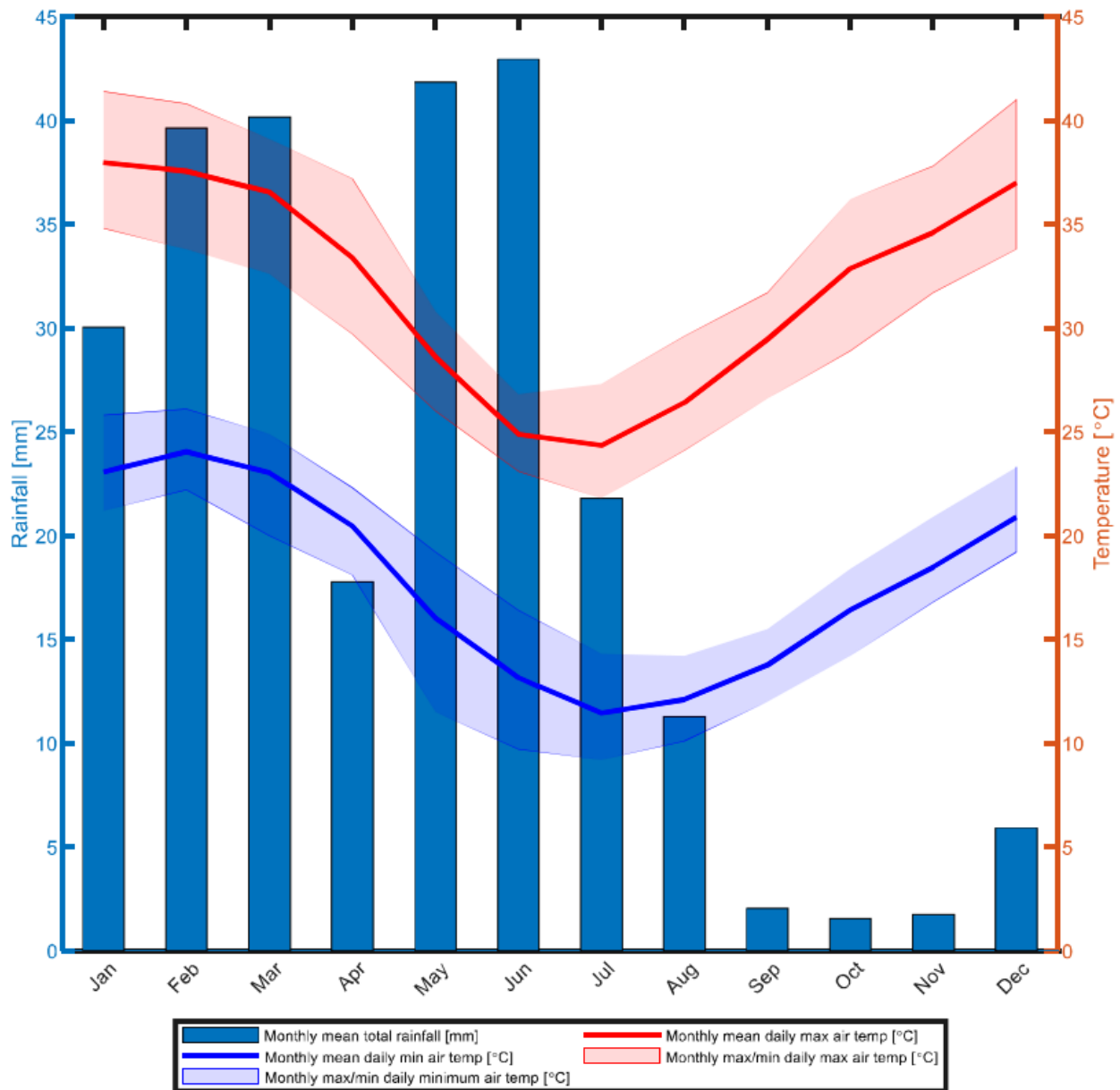
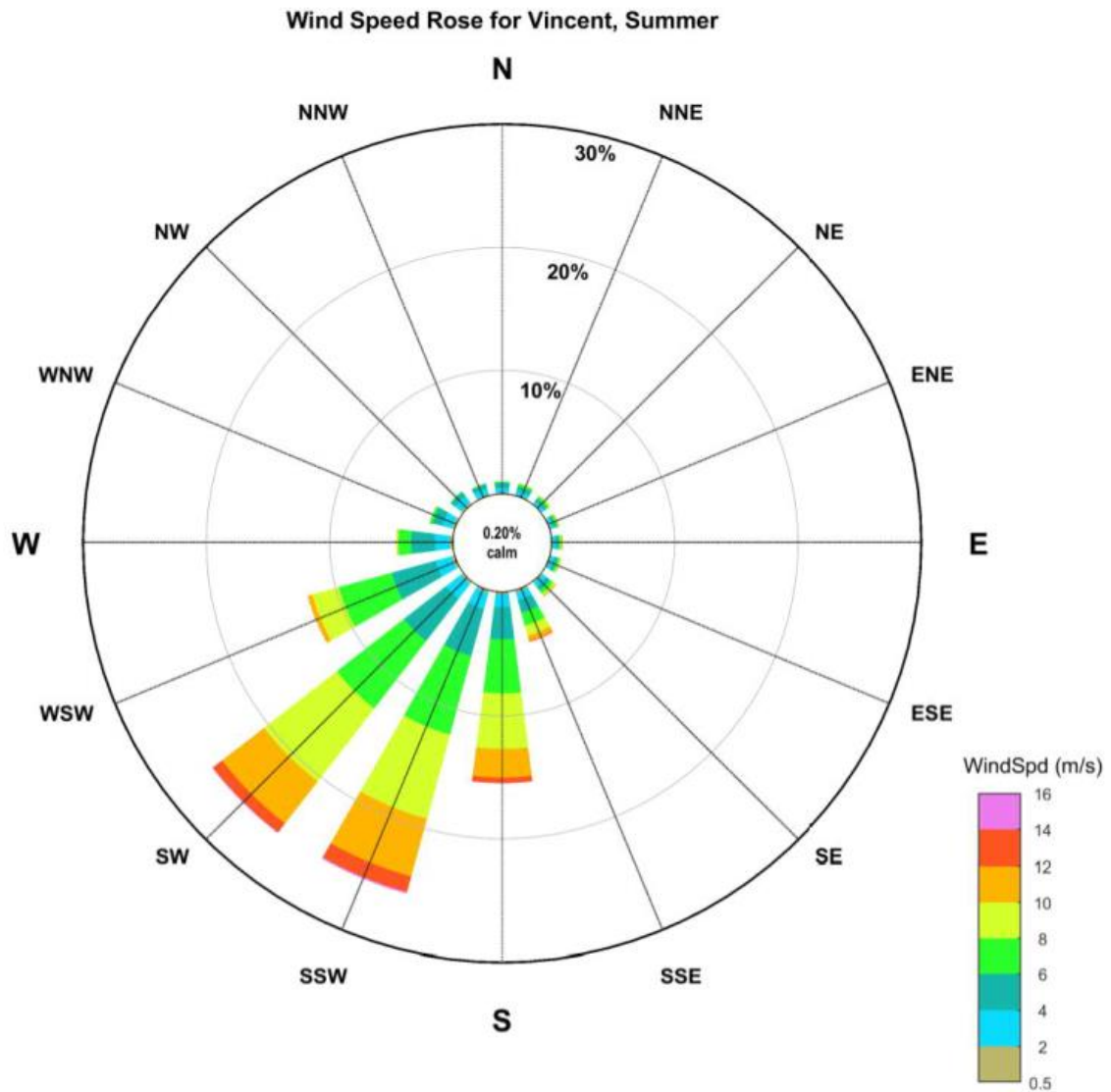


Figure 1. Monthly average total rainfall [mm] and air temperature [°C], calculated based on observations at the Learmonth Airport weather station from 1945-2020 and 1975-2020 respectively (Bureau of Meteorology 2020). Bars show the monthly average total rainfall values, and thick blue and red lines denote monthly average daily minimum and maximum air temperatures, respectively. Shaded blue and red areas denote monthly recorded extremes of daily minimum and maximum air temperature, respectively.

**Data Information:**

Project: North West Cape
 Location: Vincent [114.0600°E, 21.4400°S]
 Data Period: Summer (01-Jan-1979 to 01-Jan-2019)
 Data Source: Modelled Hindcast
 Record Elevation: 10 m AMSL
 Local Water Depth (m): 350
 Data Summary: Summer
 Number of Records: 159379
 Missing Data (%): 8.91
 Calm (% < 0.50m/s): 0.20
 Measurement Format: 10-minute avg.

Key Statistics for Data Shown:

Max Wind Speed: 18.86 m/s
 Mean Wind Speed: 7.10 m/s
 StdDev. Wind Speed: 2.75 m/s



Figure 2. Summer distributions of wind speeds (10-minute at 10 m ASL) by 22.5° directional sectors at the Vincent site (Vincent Metocean). Note tropical cyclone events were not included in this distribution. Winds at Vincent in summer are predominantly from the SW to SSW in summer due to the presence of the Pilbara Heat Low (MetOcean Engineers, 2005).

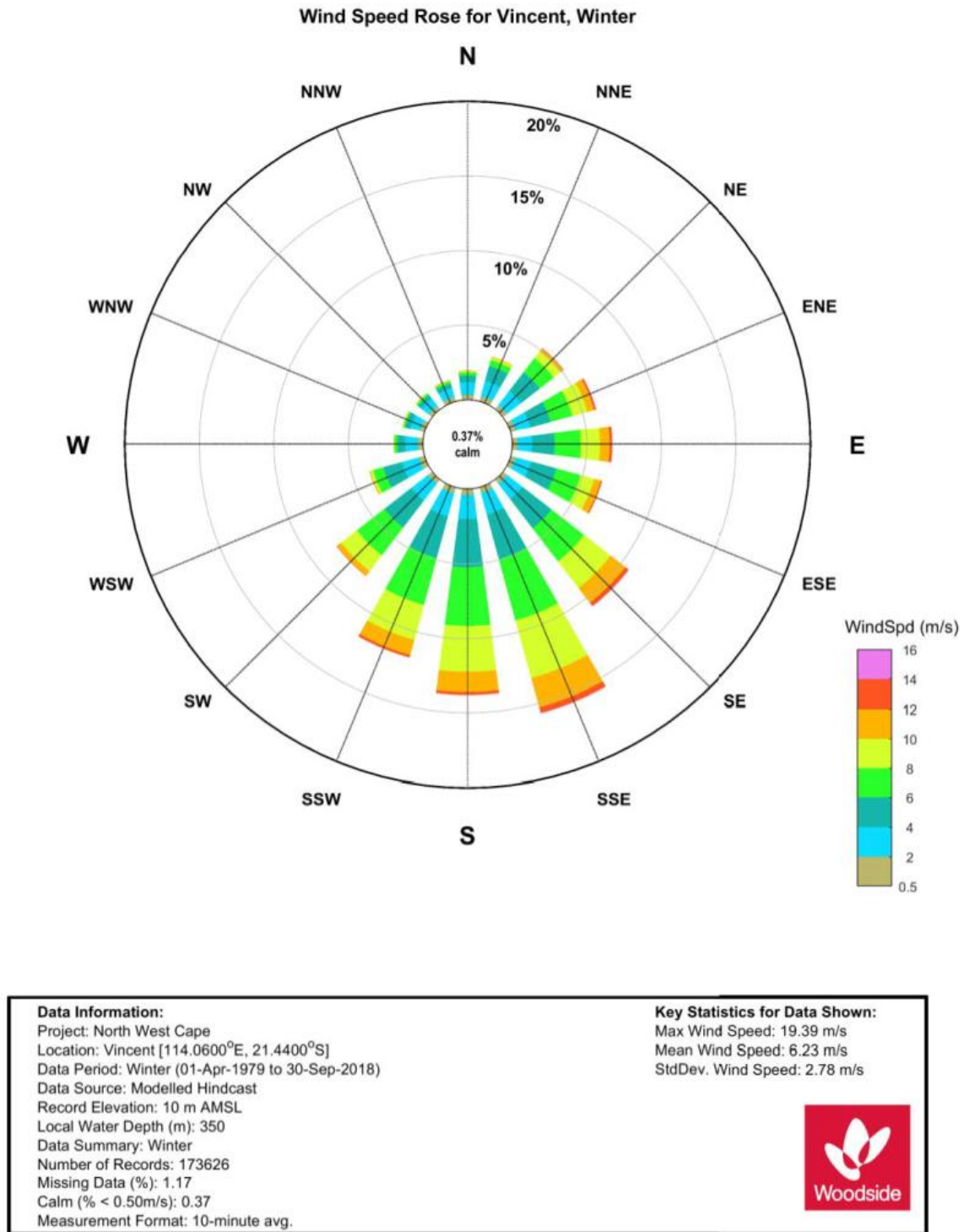


Figure 3. Winter distributions of wind speeds (10-minute at 10 m ASL) 22.5° directional sectors at the Vincent site (Vincent Metocean). Note tropical cyclone events were not included in this distribution. In winter, winds are predominantly from the S to SE, associated with the South East Trades. Easterly gales are experienced at the Vincent location due to high pressure systems generating from the Great Australian Bight area to the site (MetOcean Engineers, 2005).

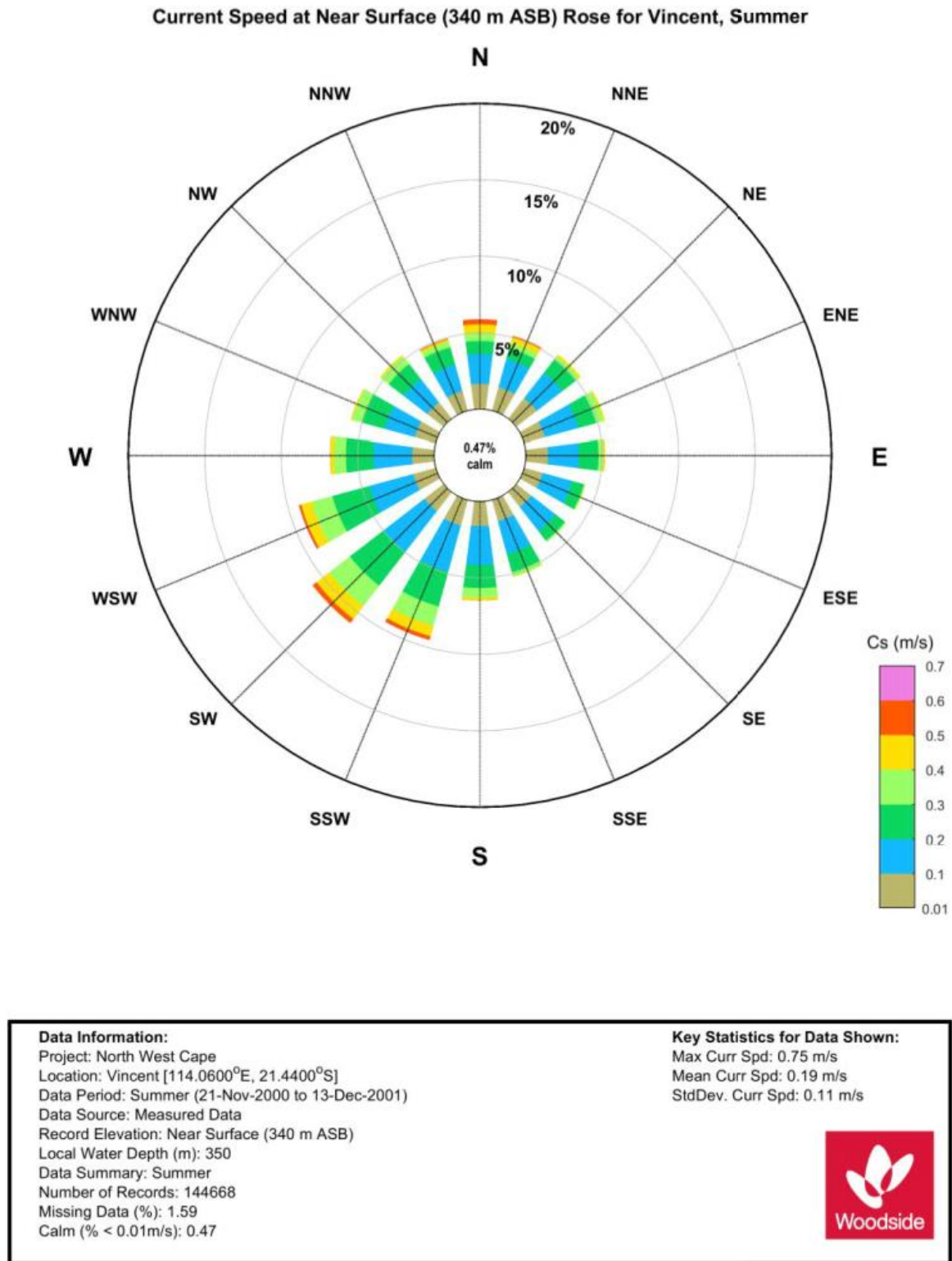


Figure 4. Summer (May - Sep) near surface combined frequency of 1-minute mean current speed and direction (towards) measured at the Vincent location (cyclones removed) (WEL, 2016).

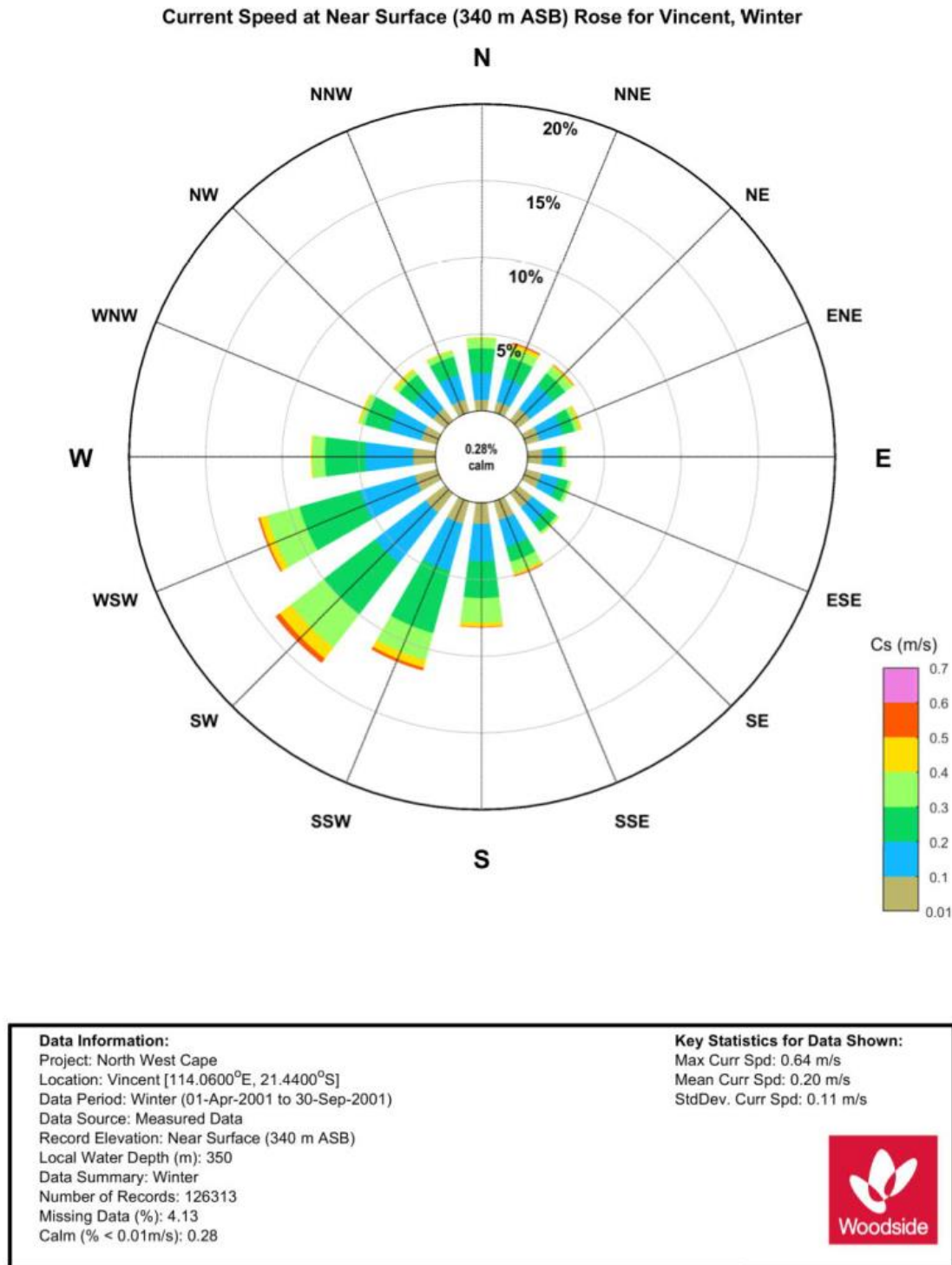


Figure 5. Winter (Nov - Apr) near surface combined frequency of 1-minute mean current speed and direction (towards) measured at the Vincent location (cyclones removed) (WEL, 2016).

REFERENCES

- AFMA 2021. Southern Blue Fin Tuna. Accessed 3 June 2021 www.afma.gov.au/fisheries-management/species/southern-bluefin-tuna
- Bureau of Meteorology 2020. Climate Statistics for Australian Locations, Summary Statistics Broome Airport Accessed 1 October 2020
<http://www.bom.gov.au/climate/averages/tables/cw_003003.shtml>.
- MetOcean Engineers 2005. Vincent Development Metocean Criteria Report No. R1276.
- Metocean Solutions Ltd 2019. West Shelf wave hindcast: Description and validation of SWAN ST6 Wave Model", DRIMS 1401150817.
- RPS 2016. Metocean Criteria Guidelines for Modu Mooring on Australia's North West Shelf, DRIMS 1400522719.
- RPS Metocean Pty Ltd 2008. "Browse LNG Development – Offshore MetOcean Measurement Programme: September 2006 to February 2008 Final Data Report." JB0020RT0019.
- Vincent Metocean 40 Year Non-Cyclonic Metocean Database for Design Studies CRN: VA0000RT1400067309.
- WEL 2011. Greater Western Flank Detailed Metocean Design Criteria, Rev 2. CRN: A3000RG5492827.
- WEL 2016. Vincent Basic Design Data Specification sheet Metocean CRN: VA0000RT1400067309.
- WEL 2015. Winds Measured at North Rankin A 1995-2015.
- WEL 2018. Scarborough Development - Non-Cyclonic and Operational Metocean Design Criteria Spreadsheet, Revision A, CRN: SA0009CT1400722569.
- WEL 2019. "Browse Development – Metocean Design Basis" CRN: JJ0013ST1400274448.

APPENDIX K: WOODSIDE'S CLIMATE POLICY

Climate Policy

BACKGROUND

The Intergovernmental Panel on Climate Change has stated that “it is unequivocal that human influence has warmed the atmosphere, ocean and land”. An objective of the Paris Agreement is to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels” and to pursue “efforts to limit the temperature increase to 1.5°C”. Many countries have set targets to reduce greenhouse gas emissions, including by changing the way they produce and consume energy.

OBJECTIVE

Woodside's objective is to thrive in this energy transition as a low cost, lower carbon energy provider.

PRINCIPLES

Woodside aims to achieve the objective by:

- Setting science-based¹ near, mid, and long-term net emissions reduction targets that are consistent with Paris-aligned² scenarios, covering equity scope 1 and 2 emissions, both operated and non-operated.³
- Developing and operating oil and gas projects in a manner that is consistent with these targets. This includes the deployment of lower-emission technologies (Design Out), supporting efficient operations (Operate Out) and use of robust offsets (Offset) as methods to reduce and offset greenhouse gas emissions.
- Investing in new energy products and lower carbon services to reduce customers' emissions (part of Woodside's Scope 3 emissions), including but not limited to hydrogen, ammonia and carbon capture, utilisation and storage.
- Publishing transparent climate-related disclosures aligned to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) or other recognised global reporting standards.
- Aligning our advocacy to the principles of this Climate Policy.

¹ Woodside is using the draft Prototype IFRS Sustainability Disclosure Standard definition of “science-based” (published 2021) which states “targets are considered ‘science-based’ if they are in line with what the most recent climate science sets out is necessary to meet the goals of the Paris Agreement—limiting global warming to below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit warming to 1.5 degrees Celsius.”. See <https://www.ifrs.org/content/dam/ifrs/groups/trwg/trwg-climate-related-disclosures-prototype.pdf> (Appendix A).

² Woodside is using the draft Prototype IFRS Sustainability Disclosure Standard definition of “Paris-aligned scenarios” (published 2021) which states “scenarios consistent with limiting global warming to below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit warming to 1.5 degrees Celsius.” See <https://www.ifrs.org/content/dam/ifrs/groups/trwg/trwg-climate-related-disclosures-prototype.pdf> (Appendix A).

³ Equity emissions means the share of the total emissions arising from an activity that are attributable to Woodside in proportion to Woodside's ownership interest in the activity, irrespective of whether Woodside operates the activity. Operated emissions are the total emissions arising from an activity that Woodside operates, irrespective of Woodside's ownership interest.

APPLICABILITY

Responsibility for the application of this Policy rests with all Woodside employees, contractors and joint venture participants engaged in activities under Woodside operational control. Woodside managers are also responsible for promotion of this Policy in non-operated joint ventures.

This Policy will be reviewed regularly and updated as required.

Reviewed by the Woodside Energy Group Ltd Board in December 2023.

APPENDIX L: HYDROCARBON SPILL AUSTRALIA REGULATORY FRAMEWORK

Hydrocarbon Spill Australia Regulatory Framework

TABLE OF CONTENTS

1.	INTRODUCTION.....	3
1.1	Objective.....	3
1.2	Applicability.....	3
2.	LEGISLATIVE FRAMEWORK.....	3
2.1	Statutory and Control Agency Jurisdictions.....	3
2.1.1	Control Agency Transfer Protocols for Commonwealth Waters Response	3
2.1.2	Control Agency Transfer Protocols for State/Territory Waters/Shoreline Response	4
2.2	Interface with other plans	8
2.3	Government and External Agencies.....	9
2.3.1	NOPSEMA.....	9
2.3.2	Australian Maritime Safety Authority (AMSA)	9
2.3.3	Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW)	11
2.3.4	Port Authority Arrangements	11
2.3.5	Western Australian Agency Arrangements and the WA Department of Transport and Major Infrastructure	12
2.3.6	WA Department of Water and Environment Regulation (DWER)	13
2.3.7	WA Department of Biodiversity, Conservation and Attractions (DBCA)	13
2.3.8	Northern Territory Arrangements	13
2.3.9	Northern Territory Environment Protection Authority (NT EPA).....	14
2.3.10	Northern Territory Department of Environment, Parks and Water Security (NT DEPWS) .	14
2.3.11	Victorian Arrangements.....	14
2.3.12	Victoria Department of Transport and Major Infrastructure and Planning (DTP) & State Controller Maritime Emergencies (SCME)	14
2.3.13	Australian Government Coordination Arrangements for Maritime Environmental Emergencies.....	14
2.3.14	Western Australia Coordination Arrangements for Maritime Environmental Emergencies	18
	APPENDIX A – WESTERN AUSTRALIA DEPARTMENT OF TRANSPORT AND MAJOR INFRASTRUCTURE INCIDENT CONTROL TRANSFER CHECKLIST	20
3.	REFERENCES.....	21
4.	DEFINITIONS	23
5.	ABBREVIATIONS	23

1. INTRODUCTION

1.1 OBJECTIVE

To provide guidance on the Australian regulatory framework as it applies to hydrocarbon spill response planning in Australian Commonwealth and State jurisdictions.

This document supports the implementation of mandates in the:

- [Our Expectations - Hydrocarbon Spill](#)
- [Hydrocarbon Spill Planning Standard](#)
- [Hydrocarbon Spill Planning Work Instruction – Australia](#)

1.2 APPLICABILITY

Anyone using, following, and applying the [Hydrocarbon Spill Planning Work Instruction – Australia](#) and for persons seeking to understand the Australia legislative framework.

2. LEGISLATIVE FRAMEWORK

Marine oil pollution emergency planning, together with supporting hydrocarbon response documents, is a requirement of an Environment Plan's (EP) implementation strategy. Woodside is required to meet the following applicable regulations and regulatory agencies, as appropriate to their statutory needs:

- National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), in accordance with Regulation 22(3), Regulation 22(8) and Regulation 22(11) of the [Offshore Petroleum and Greenhouse Gas Storage Act \(Environment\) Regulations 2023](#) (Cth) (the OPGGS (E) Regulations), [OPGGS \(E\) Regulations](#).
- Western Australian (WA) Department Mines, Petroleum and Exploration (DMPE), in accordance with the [Petroleum and Geothermal Energy Resources \(Environment\) Regulations 2012](#) (WA).
- Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) where the petroleum activity is required to satisfy a Ministerial Condition of approval.
- WA Department of Transport and Major Infrastructure (WA DTMI) as the Hazard Management Authority (HMA), in accordance with the [Emergency Management Regulations 2006 \(WA\)](#).
- Northern Territory Department of Environment, Parks and Water Security (NT DEPWS) as the HMA, in accordance with Section 9 of the [Emergency Management Act 2013](#) and via the [Territory Emergency Plan](#).
- Victorian Earth Resources Regulation (ERR) branch of the Department of Energy, Environment and Climate Action (DEECA) in accordance with the *Victoria Offshore Petroleum and Greenhouse Gas Storage Act 2010* and the *Victoria Offshore Petroleum and Greenhouse Gas Storage Regulations 2021*.

2.1 STATUTORY AND CONTROL AGENCY JURISDICTIONS

Woodside's facilities and permit areas are currently situated in Western Australian, Victorian, and Commonwealth waters. Depending on their location, these facilities and permit areas fall under various statutory jurisdictions¹ and nominated Control Agencies², as outlined in Table 1 and Figure 1 and Figure 2.

For oil and gas activities taking place in Commonwealth waters, the titleholder is the responsible Control Agency for all operational aspects of oil spill response. NOPSEMA is the jurisdictional authority with responsibility for regulating the titleholder's response to the incident (DISR, 2019).

2.1.1 Control Agency Transfer Protocols for Commonwealth Waters Response

In all instances of spills arising from Woodside's petroleum activities in Commonwealth waters, Woodside's response activities should be considered to be regulated by NOPSEMA and directed by the relevant activity-specific OPEP until such time as another control agency verifies its intention to stand up and assert control.

¹ A Statutory Authority is the agency with legislative responsibility to regulate the responsible party. The Statutory Authority oversees the response to hydrocarbon spills and may request the State or Commonwealth Control Agency to take control if deemed appropriate.

² The Control Agency is the agency assigned by legislation, administrative arrangements, or the relevant contingency plan to control response activities to a maritime environmental emergency. The Control Agency will have responsibility for appointing the Incident Controller (IC)

As a response grows in size and complexity, a range of other parties and agencies may become involved, either to meet legislative obligation or to provide support to a control agency. In all cases, for spills originating from Woodside assets and activities, Woodside will facilitate the provision of resources to the control agency for their use in mitigating the consequences of the spill.

The AMSA [National Plan](#) includes a guidance for change of control agencies to a third party and includes processes for:

- approval from the relevant jurisdiction, or relevant regulator within that jurisdiction
- planning for the transfer of control
- implementing a transfer arrangement.

The AMSA [National Plan](#) and supporting guidance ([National plan supporting documents](#)) provide for a jurisdiction to request that AMSA or another Control Agency assume operational control of an incident in exceptional circumstances.

Where a transfer of control is required, the Woodside Crisis Management Team Leader/ Corporate Incident Management Team Incident Commander will handover control in accordance with:

- the aforementioned guidance within the AMSA [National Plan](#);
- the emergency and crisis management arrangements outlined in Section 5.5.2 and Section 5.5.3 of Woodside's [Incident Management Team \(Level 2\) Guidance](#); and

in accordance with 'Transfer of Command' processes detailed in the [Woodside Incident Management Handbook](#). The latest version of the incident action plan (IAP) will be shared with the external agency to assist the workflow.

2.1.2 Control Agency Transfer Protocols for State/Territory Waters/Shoreline Response

Where an incident arising from oil and gas activities impacts upon State or coastal waters, the relevant state or territory government may decide to assume the role of Control Agency (from the titleholder) for the elements of the response that take place within coastal waters and on the shoreline. Should this occur, there will be two Control Agencies, with the titleholder being the Control Agency for the response taking place in Commonwealth waters (under the guidance of NOPSEMA as jurisdictional authority – see Section 2.1) and the state or territory government as Control Agency for the response taking place in coastal waters.

Where a transfer of control is required, the Woodside Crisis Management Team Leader/ Corporate Incident Management Team Incident Commander will handover control in accordance with:

- the above guidance within the AMSA [National Plan](#);
- the Incident Control Transfer Checklist (APPENDIX A) for incidents impacting Western Australia waters;
- the emergency and crisis management arrangements outlined in Section 5.5.2 and Section 5.5.3 of Woodside's [Incident Management Team \(Level 2\) Guidance](#); and
- the 'Transfer of Command' processes detailed in the [Woodside Incident Management Handbook](#).

The latest version of the incident action plan (IAP) will be shared with the external agency to assist the workflow.

The arrangements for incident control and handover of control to relevant Commonwealth/State/Territory agencies, if required, is shown Table 1.

Table 1: Statutory Authorities and Control Agencies relevant to Woodside activities

Location of Incident Response	Source	Statutory Authority	Control Agency ³	
			Level 1	Level 2/Level 3
Commonwealth waters ⁴	Offshore Petroleum Facility	NOPSEMA ⁵	Titleholder (Woodside)	
	Shipping Sourced Spill	AMSA (& NOPSEMA) ⁶	AMSA ⁷	
State/ Territory waters/ shorelines ⁸	Onshore Petroleum Facility	Port Authority	Titleholder (Woodside)	Port Authority ⁹
	Terminals (WA Waters)	WA DMPE	Terminal Operator (Woodside)	Port Authority or WA DTMI
	Offshore Facility (State waters)	WA DTMI	WA DTMI	
		Vic DTP	Titleholder (Woodside)	DTP Victoria
	Shipping/Vessel Sourced Spill	WA DTMI	WA DTMI	
		Vic DTP / NT DEPWS	Vessel Owner	Vic DTP/ NT DEPWS
	Wildlife Response (Victoria)	DEECA	DEECA	
Port water ⁽²⁾	Facility including subsea infrastructure within port limits	WA DTMI	Port Authority	Port Authority / WA DTMI
	Vessel in port limits	WA DTMI	Port Authority	Port Authority / WA DTMI
		Vic DTP / NT DEPWS	Port Authority	Vic DTP / NT DEPWS
JPDA waters	Vessels/ FPSO (in transit)	ANP ¹⁰	AMSA	

³ The Control Agency may request support from government and oil spill response organisations.⁴ Beyond 3 nm of the State/Territory sea baseline.⁵ NOPSEMA does not have the legislative function to perform the Control Agency role.⁶ If the Ship is a facility.⁷ Woodside (Titleholder) and the vessel owner may provide first strike response capabilities in the event of a spill under the direction of the Control Agency⁸ Within 3 nm of the State/Territory sea baseline.⁹ Port Authority may be required to respond initially as 'First Response/Controlling Agency' under State/Territory Hazard Plan or Oil Spill Contingency Plan arrangements.¹⁰ The JPDA does not have a Statutory Authority. The ANP is a Designated Authority, which regulates operations within the KDPA on behalf of both Australia and Timor Leste. The ANP is a Designated Authority, which regulates operations within the KDPA on behalf of both Australia and Timor Leste.

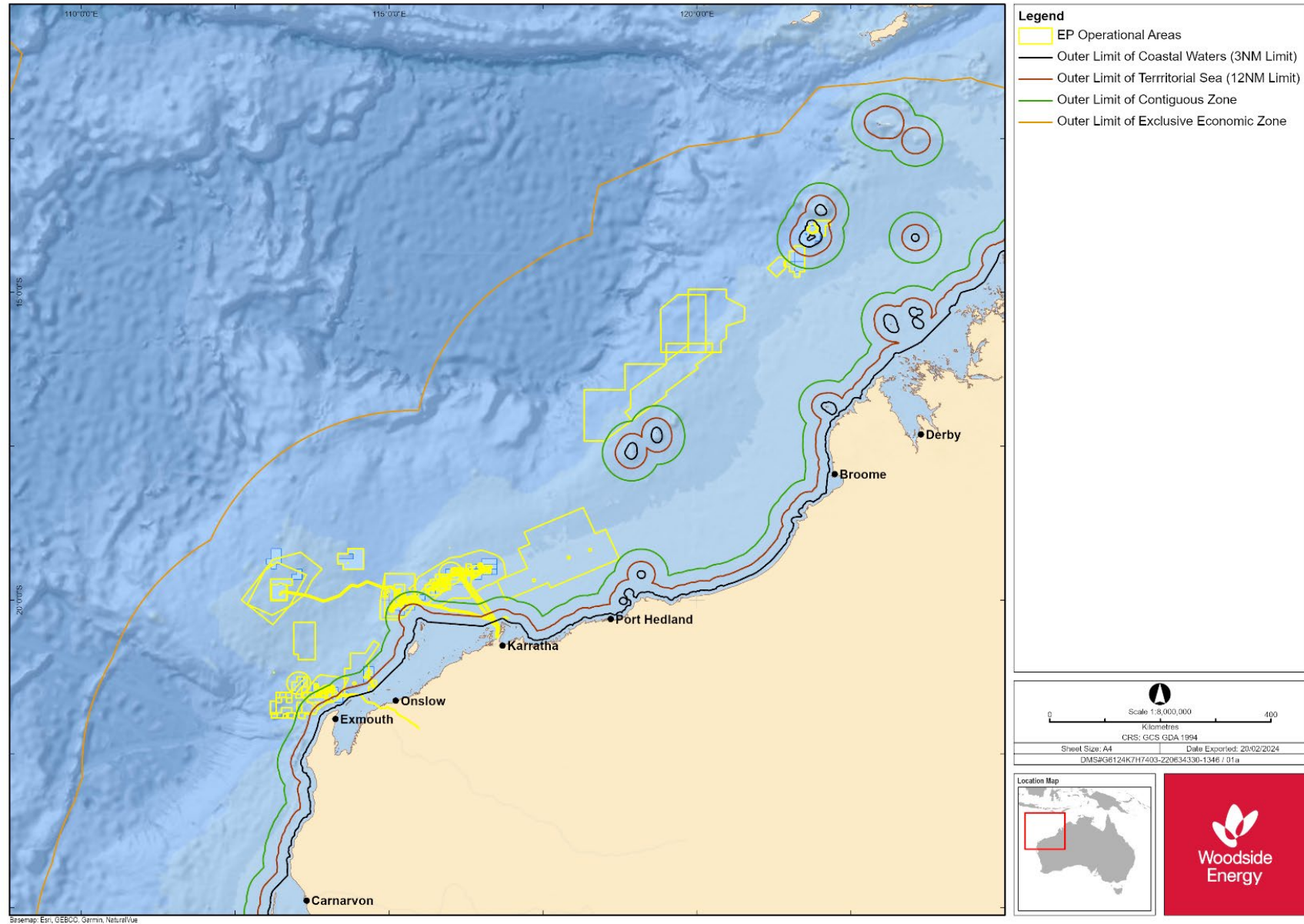


Figure 1: Western Australian oil pollution emergency jurisdictions in relation to key Woodside petroleum facilities

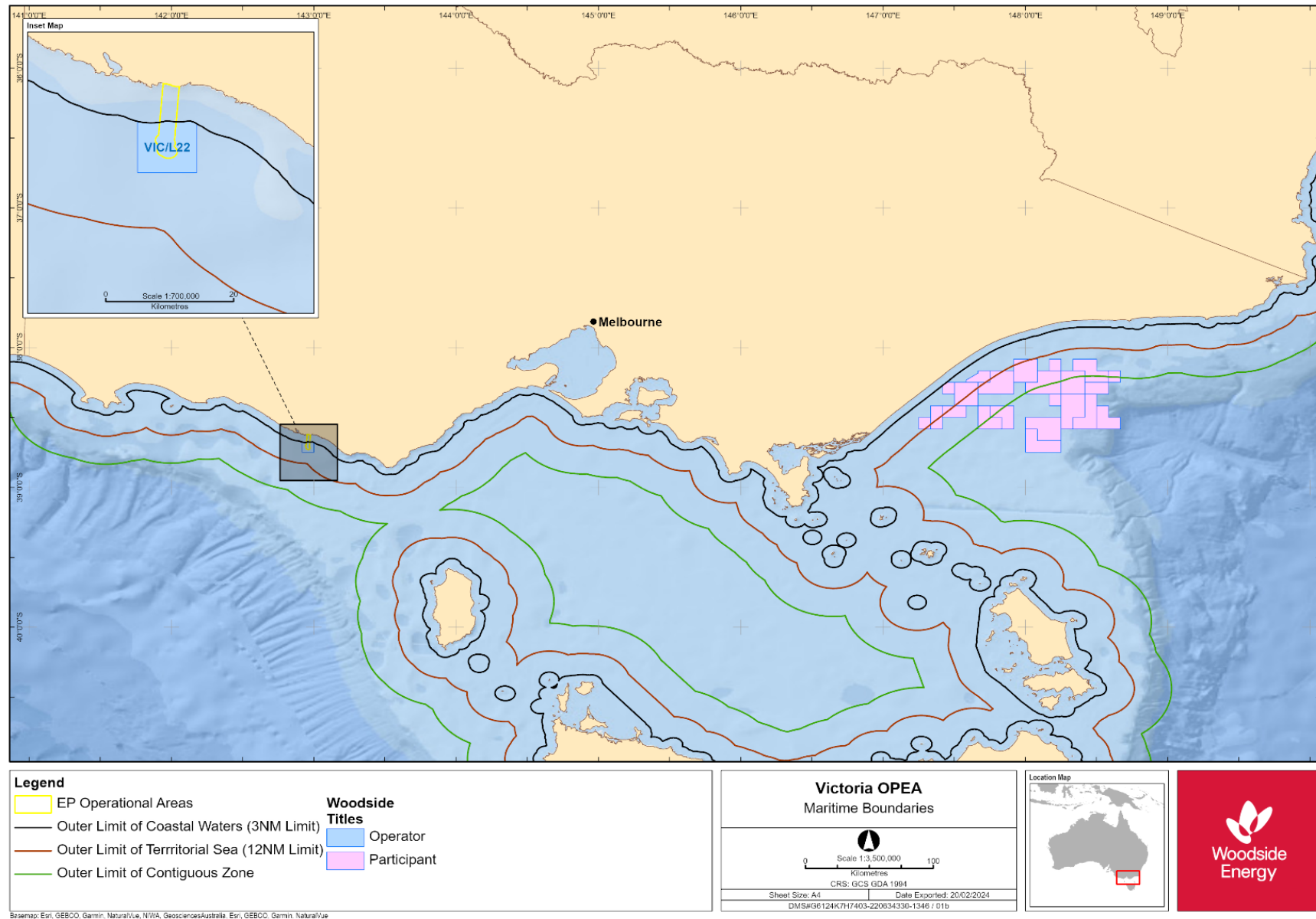


Figure 2: Victorian oil pollution emergency jurisdictions in relation to key Woodside petroleum facilities

2.2 INTERFACE WITH OTHER PLANS

Table 3 summarises how this document interfaces with the relevant hydrocarbon spill response plans of the Government and external agencies discussed within this section.

Table 2: Interface with other plans

Relevant Plans	Responsible Party	Main Content
National Plan for Maritime Environmental Emergencies (National Plan)	AMSA	The National Plan for Maritime Environmental Agencies provides a national system for responding promptly and effectively to marine pollution by hydrocarbons and other noxious and hazardous substances, by designating competent national and local authorities. The National Plan is responsible for maintaining: • a national contingency plan for preparedness and response • an adequate Level of pre-positioned marine pollution combat equipment and program for its use • a comprehensive national training program for personnel familiarisation • detailed state, local and industry contingency plans. The National Plan provides for AMSA to be the Australian Government's Control Agency in the event of vessel-based spills for the purposes of the National Plan.
State Hazard Plan: Maritime Environmental Emergencies (MEE)	WA DTMI	The State Hazard Plan for Maritime Environmental Emergencies (SHP-MEE) (the Plan) provides an overview of arrangements for the management of marine oil pollution and marine transport emergencies in Western Australia and contains information on prevention, preparedness, response and recovery. Collectively these two hazards are referred to as Maritime Environmental Emergencies. The Plan refers to a range of existing plans and documents relating to Maritime Environmental Emergencies but does not duplicate the information contained in these, instead providing directions to websites or other sources where further information can be obtained if required. The Director General, WA DTMI, is the Hazard Management Agency (HMA) for marine oil pollution and marine transport emergencies.
Broome Port Authority OSCP	BrPA	BrPA's OSCP is a sub-plan of the Port's ERP and is activated as the primary plan to combat pollution of the Port from oil. The ERP requires that all personnel who may be involved in the management of oil spills in the Port are conversant with the content of the National Plan. The current version of BrPA OSCP can be obtained from the BrPA Harbour Master.
Pilbara Ports' Port of Dampier Marine Pollution Contingency Plan	Pilbara Ports	The Pilbara Ports' Port of Dampier Emergency Response Plan (ERP) provides guidelines for actions to be taken during an emergency to minimise the potential for loss of life, injury to people, and damage to the environment and property by covering foreseeable incidents and outlining remediation. The latest versions of the Pilbara Ports' Port of Dampier ERP and the Marine Pollution Contingency Plan are available on the Emergency Preparedness and Response page of the Pilbara Ports' Port of Dampier website.
NT OSCP	NT DEPWS	NT DEPWS is responsible for the NT Oil Spill Contingency Plan, which supports the Territory Emergency Plan, and is the Hazard Management Agency (HMA) for marine oil pollution and marine transport emergencies.
Darwin Port Corporation Oil Spill Contingency Plan (DPC OSCP)	Darwin Port Corporation	The DPC OSCP sets out the response to spills of oil and hazardous and noxious substances within the Port of Darwin. This includes hydrocarbon spills from vessels or land based activities that enter Port waters. More information is available on the Emergency & Cyclone Plans page of the Darwin Port Authority website. The Port of Darwin Harbourmaster is the Incident Controller for all spills within the harbour.

Relevant Plans	Responsible Party	Main Content
AMOSPlan	AMOSC	AMOSPlan covers the spill response and training activities of AMOSC and the company- to- company mutual assistance arrangements administered by AMOSC. The AMOSPlan is underpinned by a Principal and Agency Agreement signed between AMOSC and each Participating Company that sets out the basis on which personnel and company-owned equipment can be loaned by each Company to AMOSC. A Master Services Contract is also signed between these parties. This contract also covers the entities of Member Companies. In the event that a company is involved in a hydrocarbon spill incident necessitating activation of its Contract, a supplementary Service Contract specifies the equipment and/or personnel to be hired. The specified equipment will vary depending on the nature and location of the oil spill incident. AMOSPlan is activated by a company when the response to an oil spill incident is regarded by the company as requiring resources beyond those of the company itself. The AMOSPlan also outlines the agreement between AMOSC and AMSA that enables AMSA to hire equipment and personnel from AMOSC on behalf of the National Plan. The AMOSPlan divides into several response regions with Mutual Aid Contacts (MACs) identified in each region.
Victorian State Emergency Management Plan (SEMP) State Maritime Emergencies (non-search and rescue)	Department of Energy, Environment and Climate Action (DEECA) Department of Transport and Major Infrastructure and Planning (DTP)	DEECA retains responsibility for titles administration, well integrity and environment within state water (located within 3 nautical miles of the Victorian coast). In accordance with the <i>Victorian Marine (Drug, Alcohol and Pollution Control) Act 1988 (the Act)</i>, Emergency Management Act 2013 and the <i>Emergency Management Manual Victoria</i>, DTP is the control agency for marine pollution incidents in state waters, up to 3 NM offshore. The Maritime Emergencies (NSR) Subplan prescribes the emergency management arrangements for preparedness and response to marine pollution from vessel, offshore petroleum activities and other sources in state waters.

2.3 GOVERNMENT AND EXTERNAL AGENCIES

2.3.1 NOPSEMA

NOPSEMA is the Statutory Authority responsible for the oversight of response actions to pollution events from offshore petroleum activities in areas of Commonwealth jurisdiction. It administers the OPGGS (E) Regulations.

NOPSEMA has National Plan Statutory Responsibility for the offshore petroleum industry. During a spill incident, NOPSEMA's role will be to:

- Implement regulatory processes to monitor and secure compliance with the [OPGGS\(E\) Regulations 2023](#) and the [Offshore Petroleum and Greenhouse Gas Storage Act 2006 \(Cth\)](#) (the OPGGS Act), including issuing directions as required.
- Investigate accidents, occurrences, and circumstances involving deficiencies in environment management as required.
- Provide management, operational, technical, and environmental advice, as required to the Titleholder.

Although NOPSEMA is the Statutory Authority for hydrocarbon spill incidents from offshore petroleum activities, it does not have the legislative capacity to undertake the role of Control Agency and, as such, the Titleholder remains responsible (as Control Agency) for all Levels of hydrocarbon spill incidents from offshore petroleum activities. NOPSEMA will, however, provide support for a whole-of-government approach to incident coordination by providing advice and issuing directions to Titleholders and/or operators during an offshore petroleum incident.

2.3.2 Australian Maritime Safety Authority (AMSA)

AMSA is the national shipping and maritime industry regulator and was established under the [Australian Maritime Safety Authority Act 1990 \(Cth\)](#). AMSA manages the [National Plan to Combat Pollution of the Sea](#)

[by Oil and other Noxious and Hazardous Substances](#) on behalf of the Australian Government, working with State and the Northern Territory governments, emergency services, and private industry to maximise Australia's marine pollution response capability¹¹..

Legislatively, AMSA is responsible for protecting the marine environment from pollution from vessels and other environmental damage caused by vessels. AMSA functions are to:

- combat pollution in the marine environment
- provide a search and rescue service
- perform other functions conferred on it by or under any other Acts.

As part of this national plan, a National Response Team (NRT) and the National Response Support Team (NRST) were established to provide support to control agencies in the event of a major marine oil pollution incident.

Each State/Territory is to nominate to AMSA suitably qualified personnel to fill designated roles, including:

- Planning Officer
- Operations Officer
- Logistics Officer
- Response Team Leader.

Each of these roles is filled in each State/Territory as part of the NRT.

AMSA is to be notified immediately through the Rescue Coordination Centre (RCC) of all ship-sourced incidents. When AMSA is the Control Agency, AMSA will assume control of the incident and respond in accordance with the AMSA's Marine Pollution Response Plan. AMSA's Marine Pollution Response Plan is the operational response plan for the management of vessel-sourced spills (as per Section 8 of the Memorandum of Understanding between Woodside and AMSA). AMSA is Control Agency for hydrocarbon spills, as per Table 1.

Woodside will undertake first strike response on behalf of AMSA for vessel-sourced spills, in line with the relevant Oil Pollution First Strike Plan.

For marine pollution incidents from offshore petroleum facilities arising in Commonwealth Waters where Woodside is the Control Agency, Woodside would enact its hydrocarbon spill arrangements per the activity-specific Oil Pollution First Strike Plan. For events requiring regional or national level support AMSA, as managers of the National Plan, will coordinate the resources under its direct control. This may include technical and response advice, services, equipment, personnel and contractors.

2.3.2.1 National Plan

The National Plan implements Australia's obligations as a State Party under the United Nation's Convention on the Law of the Sea 1982, the International Convention on Oil Pollution Preparedness, Response and Cooperation 1990, and the Protocol on Preparedness, Response and Cooperation to Pollution Incidents by Hazardous and Noxious Substances (HNS) 2000. AMSA works with the State/Northern Territory governments, emergency services, and private industry to maintain Australia's marine pollution response capability. Central to this capability is the Inter-Governmental Agreement on the National Plan that outlines AMSA and State/Northern Territory Government responsibilities.

As part of the [National Plan](#), a Marine Pollution Controller will be appointed to an incident. As outlined within the National Plan, the duties of the appointed Marine Pollution Controller may include:

- Assisting the Control Agency with strategic communications, including:
 - primary spokesperson for the multi-agency response
 - primary point of contact for the briefing of government(s).
- Providing the common operating picture and situational awareness at the strategic Level.
- Strategic coordination, including:
 - resolution of strategic multi-jurisdictional policy and legislative issues on behalf of the Control Agency

¹¹ http://www.amsa.gov.au/forms-and-publications/Publications/national_plan.pdf

- facilitating collaboration between all parties and resolving multi-jurisdictional-agency conflicts
- facilitating national and international assistance through the National Plan and Australian Emergency Management arrangements.

2.3.2.2 AMSA equipment

AMSA maintains strategic equipment stockpiles of marine pollution response equipment around the Australian coastline. Stocks of dispersant are stored at these stockpiles as well as other key locations. Woodside may request access to these resources via AMOSC.

2.3.3 Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW)

Under the [Environment Protection and Biodiversity Conservation Act 1999](#) (Cth) (the EPBC Act), actions that may have a significant impact on a matter of national environmental significance (MNES) require referral to the Australian Commonwealth Minister for Environment (the Minister). The Minister will decide whether assessment and approval is required under the EPBC Act.

Important for hydrocarbon spill response, an exemption from Part 3 of the EPBC Act was granted in March 2014 and remains in place for agencies acting in accordance with the National Plan. This exemption allows for the implementation of hydrocarbon spill response options, without the need for Part 3 approvals, provided that the actions taken are in accordance with the National Plan.

Although the use of chemical dispersant may be consistent with the National Plan, the dispersant type is required to be on the list of accepted National Plan Oil Spill Control Agents (OSCA list) or comply with the transitional arrangements for existing dispersants stocks accepted prior to 1 December 2012, in order for its use to be exempt from Part 3 of the EPBC Act.

An exemption from Part 13 of the EPBC Act was also granted in March 2014. Where response actions are taken in accordance with the National Plan, those actions are exempt from the Part 13 contraventions that would otherwise apply.

2.3.4 Port Authority Arrangements

Woodside operates out of several ports in the Australian states and territories. The Port Authorities house and maintain some oil spill equipment.

State/Territory authorities can also access the AMSA National Plan equipment for incident response if required.

Each Port Authority maintains its own OSCP as a subset of the State/Territory Plan. These plans are summarised in Table 3. Port Authorities may also be involved in the following tasks in relation to hydrocarbon spill preparedness:

- Operator training.
- Regular exercises (including deployment).
- Coordination of committees, such as quarterly meetings of the Dampier Port Authority Marine Oil Pollution (MOP) Committee of Port Users and the Regional Response Team, which is a collaboration between adjacent port authorities and ports (as defined by the [Shipping and Pilotage Act 1967 \(WA\)](#)).
- Risk assessments.

2.3.4.1 AMOSC and AMOSPlan

AMOSC was established through the support of members of the Australian Institute of Petroleum (AIP), including Woodside. The Centre maintains a 24-hour stand-by status and can respond quickly to a major incident.

Arrangements between AMOSC and its participating members are outlined in a Master Services Contract signed between AMOSC and the participating Member Company. When activating AMOSC as a service (i.e. hydrocarbon spill response or training) a Service Contract is executed. Woodside also has contractual arrangements with the AMOSC to access the Australian Subsea First Response Toolkit (SFRT) equipment and dispersant stockpiles.

AMOSC administers the AMOSPlan, which outlines arrangements for mutual aid between members. Mutual aid support is available from the member companies of AMOSC and the AMOSC Core Group response team and may comprise response equipment and personnel employed by another AMOSC member company.

AMOSC Core Group members are a group highly skilled in the discipline of hydrocarbon spill response, which includes approximately 120 experienced member company personnel who can be made available to support and assist with spill response activities. The request for assistance is made directly between companies via each company-nominated Mutual Aid Contact (AMOSC should be consulted for the most up-to-date Mutual Aid Contacts). AMOSC will also activate the Service Contract of the lending company and will coordinate the signing of a Service Contract for the borrowing company or companies.

2.3.5 Western Australian Agency Arrangements and the WA Department of Transport and Major Infrastructure

The [Emergency Management Act 2005 \(WA\)](#) designates Agencies within the State as Statutory Authority for hazards. In Western Australia, the hazard management agency for Marine Oil Pollution is the WA DTMI.

Under the Act, the Statutory Authorities are required to produce and administer Plans for the hazards assigned to them.

They are responsible not only for the oversight of a response, but also for responding, should the party responsible for the spill not be able to control the situation.

For oil pollution to the marine environment in State waters/shorelines the WA DTMI has produced and administer the SHP-MEE.

In the event of a spill where Woodside is the responsible party and the spill may impact State waters/shorelines, Woodside will notify WA DTMI.

For all levels of spill in State waters/shorelines, WA DTMI is the Control Agency. WA DTMI will appoint an Incident Controller and form a separate Incident Management Team.

The WA DTMI coordinates the State Response Team (SRT). SRT is part of Western Australia's commitment to ensure the effective preparedness and response to marine pollution incidents. The SRT members are primarily frontline responders. Members of the team are from government agencies, port authorities, and industry, all of whom have a vested interest in marine oil pollution.

For any Level 2 or 3 Marine Oil Pollution (MOP) incident, Woodside will immediately notify WA DTMI and conduct initial response actions in State waters as directed and in accordance with the WA OSCP/ Oil Pollution Emergency Plan (OPEP). Woodside will continue to manage those operations at WA DTMI direction until formal incident control can be established by WA DTMI.

Initially, Woodside will be required to make available an appropriate number of suitably qualified persons to work in the WA DTMI Incident Management Team (IMT). WA DTMI's role as the Controlling Agency for spills in State waters/shorelines does not negate the requirement for Woodside to have appropriate plans and resources in place to adequately respond to a Marine Oil Spill incident in State waters/shorelines, or to commence the initial response actions to a spill prior to WA DTMI establishing incident control in line with the WA DTMI Offshore Petroleum Industry [Guidance Note, Marine Oil Pollution: Response and Consultation Arrangements](#).

A list of roles and key duties for Woodside personnel working in the WA DTMI IMT and the response structure can be found in an approved Oil Pollution First Strike Plan on Corporate Hydrocarbon Spill SharePoint.

To assist WA DTMI in assuming formal incident control, the nominated WA DTMI Incident Controller will establish contact with the Woodside Incident Controller and work through the Controlling Agency Transfer Checklist at APPENDIX A.

Upon establishment of incident control by WA DTMI, Woodside will continue to provide planning and resources in accordance with their OSCP/OPEP. This will include response assets and contracts specified in the OSCP/OPEP, such as those pertaining to waste management, transport, and personnel, as well as response arrangements with the Australian Marine Oil Spill Centre (AMOSC) and other third-party responders.

In performing the Controlling Agency function, WA DTMI will use Woodside's approved/accepted OSCP/OPEP as a starting point for all aspects of a response. WA DTMI reserves the right to deviate from the OSCP/OPEP in circumstances where there is a justifiable cause, in consultation with Woodside.

By arrangement with WA DTMI, within designated port limits the relevant Port Authority is responsible for hydrocarbon spills in port waters.

In the case where a spill for which Woodside is responsible has, or will, enter State waters/shorelines, the WA DTMI will send a State Marine Pollution Coordinator (SMPC) Liaison Officer and a Media Liaison Officer to Woodside's CIMT. The role of the WA DTMI Liaison Officer will be to:

- Facilitate effective communications between WA DTMI's SMPC and Incident Controller and Woodside's appointed Crisis Management Team (CMT) Leader and CIMT Incident Commander.
- Provide enhanced situational awareness to WA DTMI of the incident and the potential impact on State waters.
- Assist in the provision of support from WA DTMI to Woodside.
- Facilitate the provision technical advice from WA DTMI to the Woodside Incident Controller as required.

Additional information on marine oil pollution coordination arrangements in WA State waters is included in Section 2.3.14.

2.3.6 WA Department of Water and Environment Regulation (DWER)

The DWER has responsibilities associated with State environmental regulation, approvals and appeals processes, and pollution prevention. The DWER primarily administers the [Environmental Protection Act 1986 \(WA\)](#).

The DWER's Pollution Response Unit has operational waste management responsibilities in accordance with the [Environmental Protection Act 1986 \(WA\)](#). This includes approving temporary waste storage areas. The DWER may send an Officer to a spill site and can provide an External Liaison role in Woodside's IMT.

The DWER Pollution Response Unit will be notified directly of any spill incident that requires temporary waste storage outside existing Woodside Lease boundaries.

2.3.7 WA Department of Biodiversity, Conservation and Attractions (DBCA)

The DBCA has responsibilities associated with wildlife and activities in national parks, reserves, and State marine parks.

The Biodiversity Conservation Act 2016 (WA) (which replaced the [Wildlife Conservation Act 1950 \(WA\)](#)) provides the Department of Parks and Wildlife (DPaW) with the responsibility and Statutory Authority to treat, protect, and destroy wildlife. The DPaW does not provide oiled wildlife operational response support. Industry is expected to have access to their own oiled wildlife capability.

DBCA, together with AMOSC, have developed the [Western Australia Oiled Wildlife Response Plan \(WAOWRP\)](#) and the [Western Australia Oiled Wildlife Response Manual](#), which align with the SHP-MEE and address requirements for oiled wildlife response in both State and Commonwealth waters. The WAOWRP details the legislative responsibilities, relationships to other plans, roles and responsibilities, emergency management structure, and procedures for OWR.

2.3.8 Northern Territory Arrangements

Authority for the regulation of marine pollution, powers of investigation, and appointment of authorised officers in the Northern Territory (NT) is derived from the *Marine Pollution Act, 1999* (NT) (the Act). NT DEPWS is responsible for administering the Act.

The Territory Emergency Plan (TEP) describes the NT emergency management principles for response and recovery operations, and the control and coordination roles and responsibilities across multiple hazards.

The TEP is established by the *Emergency Management Act, 2013* (NT) (EM Act) and administered by the Department of Police, Fire and Emergency Services (PFES). Administrative authority for the TEP is held by the Territory Emergency Controller. The NT OSCP is listed as a hazard-specific emergency plan within the TEP.

NT DEPWS is the Hazard Management Authority and is responsible for maintaining currency of the NT OSCP and providing strategic oversight and technical advice for marine oil spill incidents.

Where Woodside believes a spill may cross into Territory coastal waters, Woodside will notify NT DEPWS.

2.3.9 Northern Territory Environment Protection Authority (NT EPA)

The NT EPA is an independent corporation established under the [Northern Territory Environment Protection Act 2019](#). The NT EPA is responsible for regulatory services to provide for effective waste management, pollution control and sustainable practices. The NT EPA will be informed verbally and by email as soon as practicable via notification through a 24-hour pollution hotline and email, in the event of a hydrocarbon spill which is predicted to enter NT coastal waters.

2.3.10 Northern Territory Department of Environment, Parks and Water Security (NT DEPWS)

The NT DEPWS is the regulatory authority responsible for protecting the NT's environment and natural resources while providing advice and support to enable the responsible use and development of the Territory's land and waters within three nautical miles of the coastline. NT DEPWS will be responsible for wildlife response if a spill tracks towards NT coastal waters. NT DEPWS will also provide advice on waste management and clean-up of NT shorelines, if required.

2.3.11 Victorian Arrangements

In accordance with *Victorian Marine (Drug, Alcohol and Pollution Control) Act 1988* (the Act), *Emergency Management Act 2013* and the Emergency Management Manual Victoria, Department of Transport and Major Infrastructure and Planning (DTP) is the control agency for marine pollution incidents in state waters, up to three nautical miles offshore.

The State Controller Maritime Emergencies (SCME) has overall responsibility for ensuring there is an adequate response to a marine pollution incident in state waters; this includes marine pollution arising from a petroleum activity originating in either state or Commonwealth waters. In these circumstances, the provision of an adequate response will be primarily achieved through the coordinated employment of the titleholders' resources. Department of Energy, Environment and Climate Action (DEECA) retains responsibility for titles administration, well integrity, and environment within state waters.

In the event of a marine pollution incident originating in Commonwealth waters that impacts or threatens Victorian state waters, DTP assumes jurisdictional control for such incidents within coastal waters (only) from a state consequence management perspective.

2.3.12 Victoria Department of Transport and Major Infrastructure and Planning (DTP) & State Controller Maritime Emergencies (SCME)

The Victorian DTP is the regulatory authority responsible for Level 2 and Level 3 marine pollution incidents in coastal waters, up to three nautical miles from land.

The SCME has overall responsibility for ensuring there is an adequate response to a marine pollution incident in state waters; this includes marine pollution arising from a petroleum activity originating in either state or Commonwealth waters. During an actual or impending marine (petroleum) pollution incident in state waters, the SCME provides overall strategic management of the response and executive level support and guidance to the Incident Controller. DTP's Resilience and Emergency Coordination (REC) team assists the SCME and the DTP to fulfil their statutory obligations in response to a marine pollution incident in state waters.

2.3.13 Australian Government Coordination Arrangements for Maritime Environmental Emergencies

2.3.13.1 Purpose

The purpose of the [Australian Government Coordination Arrangements for Maritime Environmental Emergencies](#) (Coordination Arrangements) (NP-GUI-020) is to provide a framework for the coordination of Australian Government departments and agencies to respond to a maritime environmental emergency.

2.3.13.2 Objectives

The objectives of the Coordination Arrangements are to:

- provide whole-of-government management of maritime environmental emergencies
- establish the roles and responsibilities of Australian Government departments and agencies in the management of maritime environmental emergencies

- protect the strategic interests and reputation of the Australian Government
- provide for the effective and timely briefing, reporting and engagement across the Australian Government and to the community
- coordinate the commitment of the Australian Government's resources to combat a maritime environmental emergency.

2.3.13.3 Scope

Maritime Environmental Emergencies

The Coordination Arrangements apply to all maritime incidents as defined by the National Plan for Maritime Environmental Emergencies.

Geographic Scope

This includes incidents occurring:

- within the Commonwealth marine area
- on the High Seas or within the marine area of a neighbouring country and that has the potential to impact the interests of the Australian Government or
- within the jurisdiction of a state or the Northern Territory and has the potential to impact the interests of the Australian Government.

The Coordination Arrangements may also be applied through the National Plan within the jurisdiction of a state or Northern Territory for significant incidents that require the support of the Australian Government.

Relevant supporting and legal arrangements are detailed within Sections 1.4 and 1.5 of the [Coordination Arrangements](#).

2.3.13.4 Governance

The [Coordination Arrangements](#) work within the governance arrangements of the National Plan for Maritime Environmental Emergencies (the National Plan). Under the National Plan, sit a number of Committees, including the Australian Government National Plan Committee (AGNPC), which is responsible for ensuring Australian Government departments and agencies are prepared to respond to maritime environmental emergencies. Figure 3 describes the Governance model.

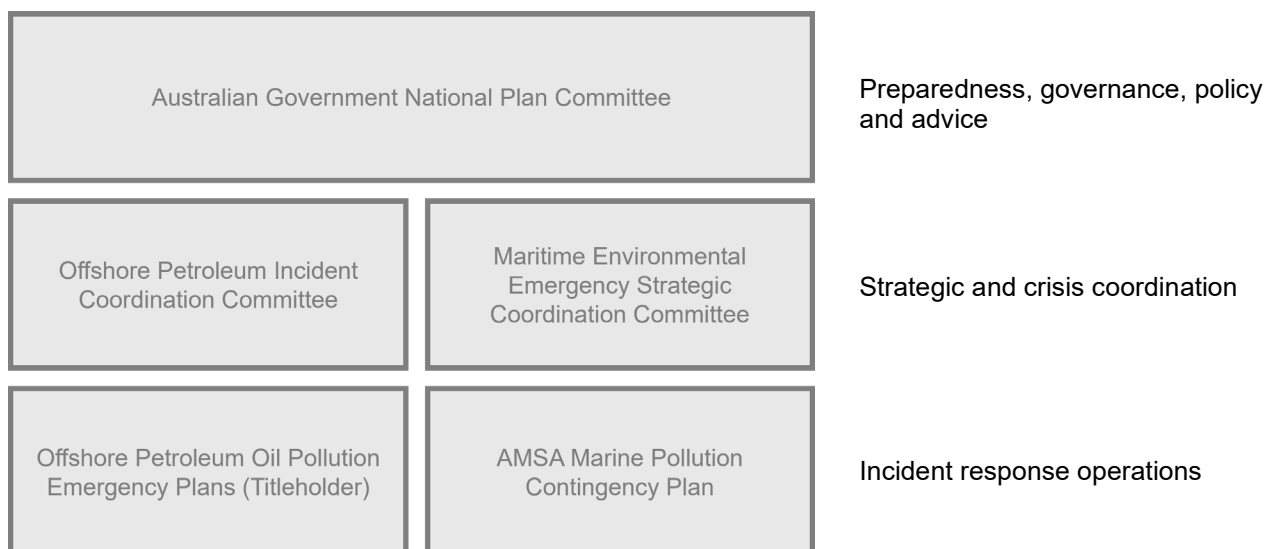


Figure 3: Governance model for the Australian Government Coordination Arrangements

2.3.13.5 Incident management

The [Coordination Arrangements](#) address three areas of response to a maritime environmental emergency:

- strategic and crisis coordination
- emergency response
- recovery.

They do not replace existing plans and response systems but help to draw them into a single coordinated framework.

2.3.13.6 Strategic Coordination

Strategic and crisis coordination, within the context of these Arrangements, refers to bringing together Australian Government departments and agencies to manage the strategic and reputational interests of the Government as well as effectively and efficiently resource operational responses to incidents where relevant. This may include:

Australian Government Crisis Management Framework – The [Australian Government Crisis Management Framework](#) (AGCMF) defines the Australian Government's approach to crisis management. The Framework outlines Ministers and senior official's roles and responsibilities when preparing for, responding to and recovering from crisis, and sets out the arrangements that link ministers and the work of key officials, committees and facilities. For a maritime environmental emergency, this Framework stipulates that the Australian Government Coordinating Agency will be the Department of Industry, Science and Resources (DISR). A key responsibility of this agency is harnessing capabilities and resources in line with coordination requirements from within the portfolio, and from other agencies when portfolio-managed options are insufficient which, for a maritime environmental emergency, may include requesting Australian Government (AMSA) support with National Plan resources if required.

Maritime Emergency Strategic Coordination Committee – A Maritime Emergency Strategic Coordination Committee (MESCC) may be formed in the event of a significant maritime incident involving a ship within the Commonwealth marine area, or where the Australian Government is supporting a state or Northern Territory under the National Plan arrangements. The MESCC is led by AMSA and is constituted by the membership of the AGNPC.

Offshore Petroleum Incident Coordination Committee – An Offshore Petroleum Incident Coordination Committee (OPICC) (see additional detail in Section 2.3.13.7) may be formed in the event of a significant offshore petroleum incident in Commonwealth waters, as set out in the AGCMF and Offshore Petroleum Incident Coordination Framework. OPICC draws together expertise and capability from across government to guide a coordinated Commonwealth Government strategic response to an offshore petroleum incident in Commonwealth waters. In these circumstances, DISR is the lead Commonwealth agency providing support to OPICC as the primary mechanism to facilitate coordinated strategic leadership.

Incidents involving offshore petroleum activities and ships – Offshore petroleum activities are regulated by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). If an event occurs in Commonwealth waters that incorporates both a significant offshore petroleum incident and a maritime environmental emergency involving a ship, together DISR/ NOPSEMA and Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts (DITRDCA)/ AMSA will make an early decision on whether the OPICC will manage the Commonwealth Government's involvement and coordination, or the Maritime Emergency Strategic Coordination Committee will manage the incident.

Figure 4 outlines the AGCMF arrangements and the intersect with the MESCC and OPICC.

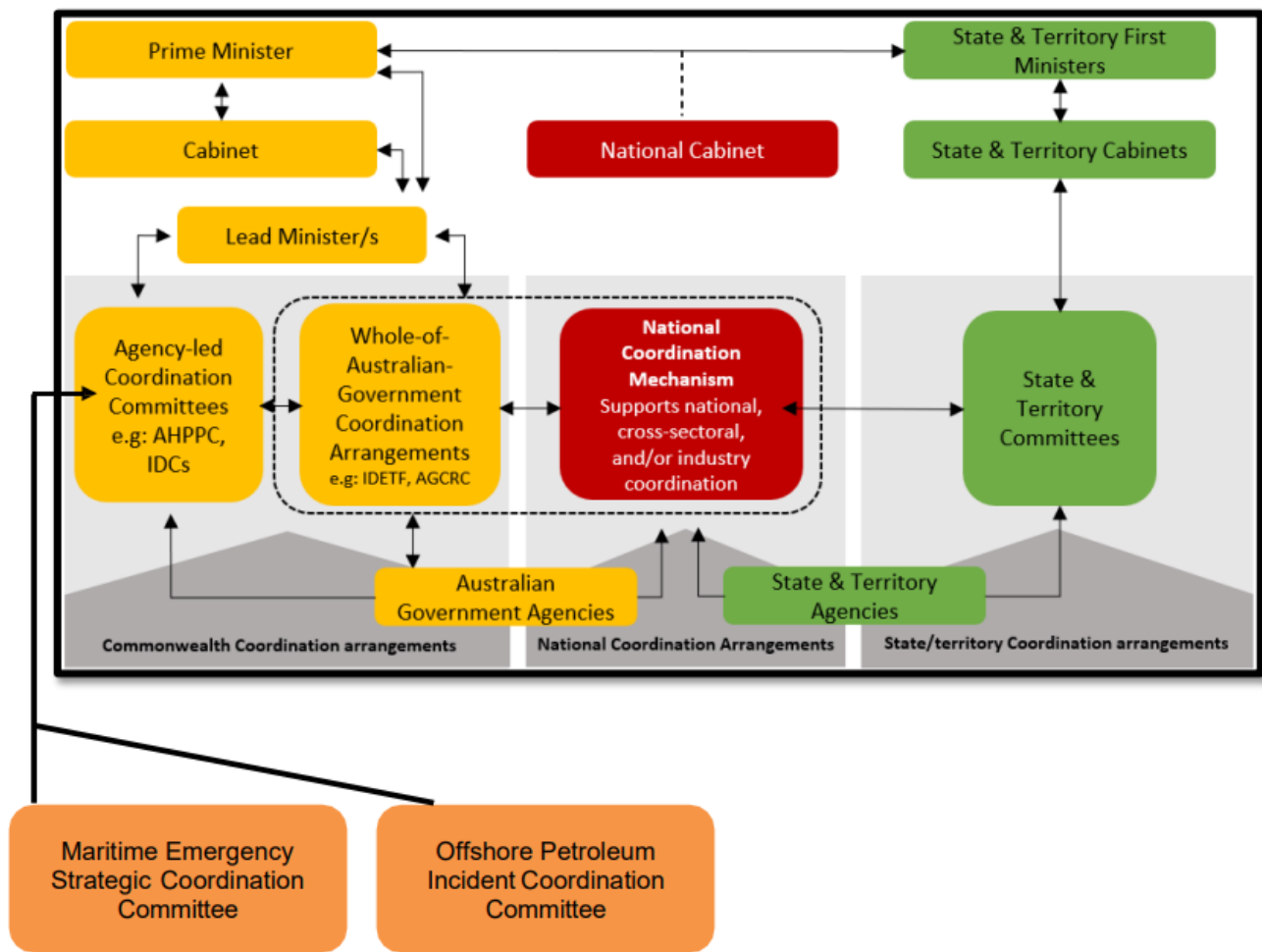


Figure 4: The Australian Government Crisis Management Framework and the intersect with the Maritime Emergency Strategic Coordination Committee and Offshore Petroleum Incident Coordination Committee¹²

2.3.13.7 Offshore Petroleum Incident Coordination Committee

The purpose of the Offshore Petroleum Incident Coordination Committee (OPICC) is to draw together expertise and capability from across government to guide a coordinated Commonwealth Government response to a significant offshore petroleum incident in Commonwealth waters. Significant Incident Arrangements are defined in the Offshore Petroleum Incident Coordination Framework.

The OPICC is not responsible for leading the operational response to an incident and does not have decision-making powers to allocate funding to any activities occurring in response to a significant incident

The OPICC has the following responsibilities:

- **Situational awareness:** provide an accurate and unified picture of the significant incident and the Commonwealth Government's, state and territory governments' and industry's capacity to respond
- **Advice:** inform and align advice to ministers, through portfolio agencies, on the status of the incident and possible response option
- **Public information:** ensure a coordinated approach to communications management to support consistent messaging
- **Leadership:** provide strategic direction from the Commonwealth Government during and following an incident
- **Assistance:** liaise with the titleholder to provide advice on Commonwealth Government capabilities and regulatory processes
- **Evaluation:** to monitor and evaluate the effectiveness of the OPICC's activities in relation to public and ministerial expectations

¹² [Australian Government Coordination Arrangements for Maritime Environmental Emergencies](#) (June 2024) (NP-GUI-020)

OPICC composition

The OPICC is activated by the Chair, the General Manager of the Offshore Strategy Branch, DISR.

Members include senior representatives from relevant Australian Government agencies, State/Territory Government(s) impacted or potentially impacted by the significant incident, and industry representatives where appropriate.

The composition of the OPICC may vary and will be determined by the Chair depending on the nature of the significant incident. Agencies central to the OPICC include:

- DISR (Chair)
- NOPSEMA
- AMSA
- DITRDCSA

Other agencies may be included in the OPICC as needed.

Trans-national incidents

In accordance with [Coordination of International Incidents: Notification Arrangements Guidance](#) (NP-GUI-007), in the event a pollution incident is affecting or is likely to affect another country, the Control Agency (in the case of pollution from a ship or unknown source) will contact the Department of Foreign Affairs and Trade (DFAT) as soon as practicable through the contact point advised by DFAT.

In the event a pollution incident originates from an offshore facility, DISR will contact DFAT as soon as practicable through the contact point advised by DFAT.

In relation to pollution of the marine environment occurring from petroleum activities in the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) in the Timor Sea:

- a. The operator will inform the Autoridade Nacional do Petroleo (ANP) (as the Designated Authority for the JPDA, in its delegated capacity as the regulator on behalf of the Timor-Leste and Australian Governments) and may also inform the Australian Government.
- b. If informed of such an incident, DISR will contact DFAT as soon as practicable.
- c. Should DFAT become aware of such an incident, DFAT will notify DISR.
- d. In the event that a pollution incident occurs within Australian waters and the pollution may spill into the JPDA, DISR, through the Australian Joint Commissioner, will notify the Timor-Leste Government through the Timorese Joint Commissioner, in addition to notifying DFAT.

Woodside's response operations across trans-national boundaries will be determined in conjunction with DFAT and in consultation with local authorities.

2.3.14 Western Australia Coordination Arrangements for Maritime Environmental Emergencies

Marine oil pollutions incidents originating from offshore petroleum activities that impact State Waters require a high level of coordination between WA DTMI (see Section 2.3.5), the Australian Government (see Section 2.3.13) and the respective Petroleum Titleholder. The interrelationships between Commonwealth, State/Territory and industry are illustrated in Figure 5. Response by WA DTMI as HMA and Controlling Agency, and relevant obligations for the Petroleum Titleholder, are detailed in Section 2.3.5.

To facilitate effective coordination between the two Controlling Agencies and their respective IMT's, a Joint Strategic Coordination Committee (JSCC) will be established. The JSCC will be jointly chaired by the SMEEC and the Petroleum Titleholder's nominated Crisis Management Team (CMT) Leader and will comprise of individuals deemed necessary by the chairs to ensure an effective coordinated response across both jurisdictions. As the relevant Jurisdictional Authority in Commonwealth Waters, NOPSEMA may opt to participate in the JSCC as they see fit.

Key functions of the JSCC include:

- Ensuring that the key objectives set by multiple IMTs in relation to the marine oil pollution incident are consistent and focused on achieving an effective coordinated response.
- De-conflicting competing priorities between multiple IMTs.
- De-conflicting competing requests for resources between the multiple IMTs, including those managed by AMSA, such as national stockpile equipment, dispersant aircraft, and the National Response Team.

- Resolution of significant strategic issues as they arise during the incident response.
- Ensuring that there is a single shared understanding of the concept of operations for the response and resolution of any controversial actions.
- Ensuring that there is a shared understanding of the incident situation and its meaning among all key stakeholders.
- Ensuring there is agreement on how information is communicated to the public, particularly those issues that have actual or perceived public health implications.
- Ensuring adequate coordination and consistency is achieved in relation to access and interpretation of intelligence, information, and spill modelling to promote a common operating picture.

It is important to note that the JSCC is a committee, not a team operating from a specified location. The JSCC will be administered by the Controlling Agency.

In WA waters, the inaugural JSCC meeting will be convened by the SMPC, once both the Petroleum Titleholder and WA DTMI formally assume the role of Controlling Agency.

Additional information on the role of WA DTMI as Controlling Agency for spill arising in or impacting WA State waters is provided in Section 2.3.5.

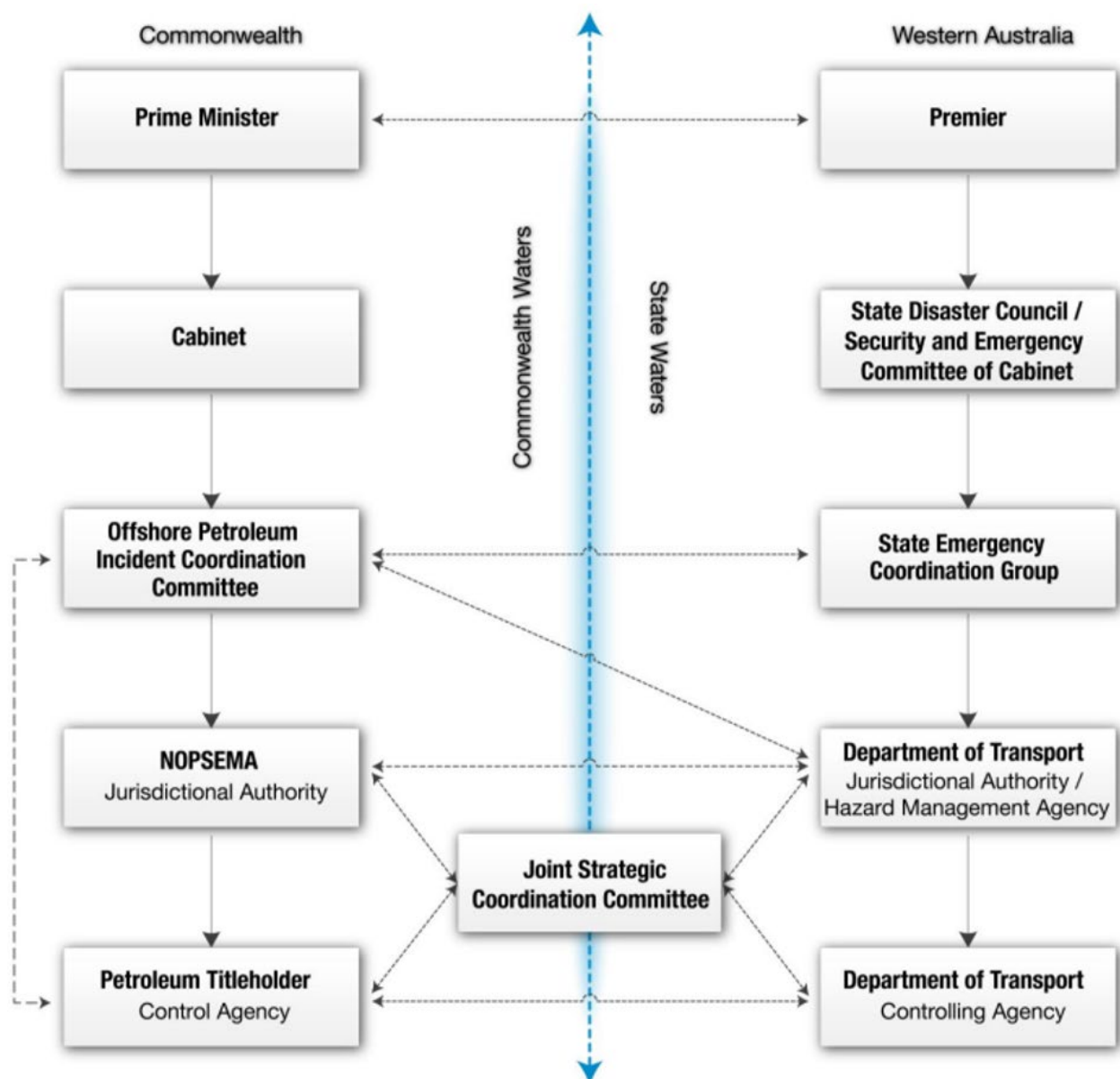


Figure 5: Overall Coordination Arrangements – Cross Jurisdiction¹³

¹³ [WA Department of Transport and Major Infrastructure Offshore Petroleum Industry Guidance Note - Marine Oil Pollution: Response and Consultation \(July 2020\)](#)

APPENDIX A – WESTERN AUSTRALIA DEPARTMENT OF TRANSPORT AND MAJOR INFRASTRUCTURE INCIDENT CONTROL TRANSFER CHECKLIST

☐	Confirm date and time of formal transfer of Incident Control in State Waters
☐	Confirm respective Incident Controller lines of communication arrangements (including exchange of Liaison Officers in IMT).
☐	Confirm respective On-Scene Commander lines of communication arrangements (including exchange of Liaison Officers in FOB)
☐	Confirm the location of any Woodside FOB and Staging Areas.
☐	Confirm the details of all current response operations being conducted by Woodside in State Waters
☐	Confirm the composition and status of all response resources, both personnel and equipment, currently being controlled by Woodside that relate to response operations in State Waters.
☐	Confirm the composition and status of all response resources, both personnel and equipment that has been mobilised by Woodside and in transit to the spill site that will contribute to future response operations in State Waters.
☐	Confirm the composition and status of all response resources, both personnel and equipment that is in the process of being mobilised by Woodside to contribute to future response operations in State Waters.
☐	Confirm current level of incident and the predicted level in the future
☐	Confirm existence and adherence to an OPEP/OSCP and secure a copy for the relevant OPEP/OSCP plan, EP and OSMP.
☐	Secure a copy of the current Situation Report and incident prognosis.
☐	Secure a copy of the Product Material Safety Data Sheet (MSDS)
☐	Notification of significant Safety Risks
☐	Secure a copy of the latest spill trajectory modelling
☐	Secure a copy of the latest actual spill monitoring and surveillance information.
☐	Confirm GIS lines of communication arrangements
☐	Secure a copy of the current IAP as it relates to State Waters response operations specifically the details of all immediate and future response operations planned by Woodside in State waters.
☐	Secure a copy of the most recent media statements.
☐	Secure a summary of all community / stakeholder engagement activities undertaken to date and those planned in the immediate future that pertain to state waters impact.
☐	Confirm deployment of initial Woodside personnel to DoT IMT and DoT FOB
☐	Reconfirm date and time of formal transfer of Incident Control in State Waters
DoT Incident Controller _____ Date _____ Time _____	

3. REFERENCES

Title	Reference
Our Expectations - Hydrocarbon Spill	Latest Edition
Hydrocarbon Spill Planning Standard	Latest Edition
Hydrocarbon Spill Response Standard	Latest Edition
Hydrocarbon Spill Capability & Competence Standard	Latest Edition
Compliance and Assurance	No standard required. Refer to GRC and WiRCS
Hydrocarbon Spill Planning – Australia Work Instruction	Latest Edition

External References

Title	Reference
AMOSPlan	Link
Australian Institute of Disaster Resilience – Australian Emergency Management Arrangements Handbook (2023)	Link
Australian Government Crisis Management Framework (September 2024)	Link
Australian Maritime Safety Authority	Link
Australian Maritime Safety Authority – Equipment	Link
Australian Maritime Safety Authority – Australian Government Coordination Arrangements for Maritime Environmental Emergencies (June 2024) (NP-GUI-020)	Link
Australian Maritime Safety Authority – National Plan – Coordination of International Incidents: Notification Arrangements Guidance (February 2021) (NP-GUI-007)	Link
Darwin Ports - Emergency & Cyclone Plans	Link
Department of Industry, Science and Resources – Offshore Petroleum Incident Coordination Framework (March 2019)	Link
Department of Transport and Major Infrastructure (WA) Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020)	Link
Equipment for Karratha	Link
International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (Protection of the Sea (Civil Liability for Bunker Oil Pollution Damage) Act 2008	Link
International Convention on Civil Liability for Oil Pollution Damage 1992	Link
International Maritime Organisations (IMO)	Link
IPIECA - Oil spill exercises good practice guide	Link
National Plan for Maritime Environmental Emergencies (“National Plan”)	Link
OSRL - Equipment Stockpile Status Report	Link
OSRL Australia Country Plan (COVID-19 Response Plan)	Link
PBA - Emergency Preparedness and Response	Link

Title	Reference
CEM Competency Dashboard	Link
Signed Memorandum of Understanding – Mutual Assistance [AEP] To Facilitate the Transfer of Drilling Units and Well-Site Services between Operators in Australian and Timor Leste-administered Waters to Overcome Emergency Conditions	Link
Territory Emergency Plan (NT)	Link
Tiered Preparedness and Response	Link
Victorian Joint Industry and State Oil Pollution Responses	Link
WA State Hazard Plan for Maritime Environmental Emergencies (August 2024)	Link
Western Australia Oiled Wildlife Response Manual	Link
Western Australia Oiled Wildlife Response Plan	Link

Legislation

Title	Reference
Australian Maritime Safety Authority Act 1990 (Cth)	Link
Biodiversity Conservation Act 2016	Link
Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act)	Link
Emergency Management Act 2013 (NT)	Link
Emergency Management Act 2005 (WA)	Link
Emergency Management Regulations 2006 (WA)	Link
Environmental Protection Act 1986 (WA)	Link
Marine Pollution Act 1999 (NT)	Link
Northern Territory Environment Protection Authority Act 2012	Link
Offshore Petroleum and Greenhouse Gas Storage Act 2006 (Cth)	Link
Offshore Petroleum and Greenhouse Gas Storage (OPGGS) Regulations (Environment) Regulations 2023 (Cth)	Link
Petroleum and Geothermal Energy Resources (Environment) Regulations 2012 (WA)	Link
Shipping and Pilotage Act 1967 (WA)	Link
Wildlife Conservation Act 1950 (WA)	Link
Victoria Offshore Petroleum and Greenhouse Gas Storage Act 2010	Link
Victoria Offshore Petroleum and Greenhouse Gas Storage Regulations 2021	Link

4. DEFINITIONS

Term	Meaning
Control Agency	The agency or company assigned by legislation, administrative arrangements or within the relevant contingency plan, to control response activities to a maritime environmental emergency.
First Strike	The prompt initial response to a spill by a Control Agency or on behalf of a control agency (i.e. by a Person in Charge (PIC) or Vessel Master) to protect the environment and is intended to limit the effect of an incident, until such time as other supporting resources can be deployed.
Support Agency	An agency or company that provides essential services, personnel, material or advice in support of the Control Agency during the response to a maritime environmental emergency.
Statutory Authority	An agency authorised by law to enforce legislation on behalf of the relevant country or state.

5. ABBREVIATIONS

Abbreviation	Term
AEP	Australian Energy Producers
AGCMF	Australian Government Crisis Management Framework
AGNPC	Australian Government National Plan Committee
AIP	Australian Institute of Petroleum
AMOSC	Australian Marine Oil Spill Centre
AMOSPlan	A voluntary oil industry mutual aid plan intended to supplement the National Plan, administered by Australian Institute of Petroleum through AMOSC.
AMSA	Australian Maritime Safety Authority
ANP	Autoridade Nacional do Petróleo e Minerais – Timor-Leste National Petroleum Authority (Designated Authority of the JPDA)
BrPA	Broome Port Authority
CIMT	Corporate Incident Management Team
CMT	Crisis Management Team
DBCA	Department of Biodiversity, Conservation and Attractions (Western Australia)
DEECA	Victorian Department of Energy, Environment and Climate Action
DEPWS	Northern Territory Department of Environment, Parks and Water Security
DISR	Department of Industry, Science and Resources
DITRDCA	Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts
DMPE	Western Australian Department Mines, Petroleum and Exploration
DTP	Victorian Department of Transport and Major Infrastructure and Planning
DWER	Western Australian Department of Water and Environment Regulation

EM Act	Emergency Management Act (Northern Territory)
EPA	Environmental Protection Authority
ESC	Environmental Scientific Coordinator
EP	Environment Plan
ERR	Victorian Earth Resources Regulation
ERP	Emergency Response Plans
FOB	Forward Operations Base
FPSO	Floating Production, Storage and Offloading Vessel
FSP	Oil Pollution First Strike Plan
GIS	Geographical Information System
HMA	Hazard Management Agency
IC	Incident Controller
IGA	National Plan Inter-Governmental Agreement
IMT	Incident Management Team
JPDA	Joint Petroleum Development Area
JSCC	Joint Strategic Coordination Committee
MACs	Mutual Aid Contacts (under AMOSPlan)
MEE	Maritime Environmental Emergencies
MESCC	Maritime Emergency Strategic Coordination Committee
MNES	Matter of National Environmental Significance
MOP	Marine Oil Pollution
MoU	Memorandum of Understanding
MSDS	Material Safety Data Sheet
NEMO	National Environmental Maritime Operations System
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NRT	National Response Team
NRST	National Response Support Team
NT EPA	Northern Territory Environment Protection Authority
National Plan	National Plan for Maritime Environmental Emergencies
OPEP	Oil Pollution Emergency Plan
OPGGS	Offshore Petroleum and Greenhouse Gas Storage
OPICC	Offshore Petroleum Incident Coordination Committee

OSCA	Oil Spill Control Agent
OSCP	Oil Spill Contingency Plan
OSR	Oil Spill Response
OWR	Oiled Wildlife Response
PFES	Police, Fire and Emergency Services (Northern Territory)
PT	Petroleum Titleholder
RCC	Rescue Coordination Centre (AMSA)
SMPC	State Maritime Pollution Coordinator
SHP-MEE	State Hazard Plan – Maritime Environmental Emergencies
TEP	Territory Emergency Plan (Northern Territory)
WA DTMI	Western Australian Department of Transport and Major Infrastructure
WA DTMI OSCP	Western Australian Department of Transport and Major Infrastructure Oil Spill Contingency Plan
WAOWRP	Western Australia Oiled Wildlife Response Plan